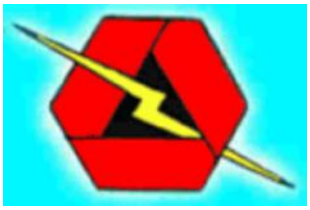

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Roy J. MEYERS

Absorber

***Technology World Magazine*, p. 279-281 (Year unknown, apparently circa 1912; another article about Meyers appeared in the November 1912 issue of *Electronic World*)**

"Picks Power from the Air"

by
Charlton Lawrence Edholm

A remarkable scene took place in the legislature of Arizona this spring when the lawmakers

enthusiastically voted for the parole of a certain convict in the State penitentiary, granting him a leave of absence for 30 days and by means of private contributions raising a fund to defray his expenses to Washington DC and return.

The prisoner, Roy J. Meyers, is serving a 3-1/2 year sentence, but in spite of the fact that he bears the stigma of a convicted lawbreaker, he has demonstrated that a convict can be a useful member of society. During his imprisonment he perfected an electrical device of such original character as to arouse feelings of wonder and skepticism until experts had seen it in actual operation. It is a device to draw electricity from the atmosphere for light and power, and the 30-day parole was granted in order that the inventor might protect his rights through the patent office at Washington.

With the acquiescence of the legislature, Governor Hunt granted the parole and the prisoner was allowed to go free without any guard or any assurance but his word of honor that he would return. Two days before the period had elapsed, Meyer again presented himself before the governor, having accomplished his mission, and then returned to the penitentiary at Florence, where he continues to serve his sentence.

This, in brief, is the picturesque story which has called attention of the civilized world to a newly discovered electrical genius, and to another feature of the case which is of equal importance and human interest; namely, the enlightened policy pursued by our youngest State in its treatment of convicts...

Before entering the prison, Meyer had already applied for various patents, among them one for an improved trolley wheel head which prevents the trolley wheel from jumping the wire. Meyers had a conference with Superintendent Sims and Parole Clerk Sanders, and it was to these gentlemen that the inventor first explained the principles of his new device for securing electrical energy from the air. The officials were willing to give the man the opportunity to develop his plan and a little wooden building outside the walls was turned over to Meyers and was fitted up as a workshop and a laboratory. The first demonstration of the new apparatus was made shortly thereafter, the electricity drawn from the atmosphere being used to spark the gas engines of the pump house, and although the device was crude yet it did the work, and removed the doubts of his friends. Furtter development of the "absorber" followed, and his second model was constructed, and developed 8 volts. The machine came to the attention of the remarkable woman who brought his name before the legislature.

This was Miss Kate Barnard, State Commissioner of Charities and Corrections of Oklahoma, who was a guest of Mr. Sims, while studying prison conditions. She saw the machine at work, became familiar with the facts of Meyers' case, and was impressed by his rather blunt and unaffected personality, for Meyers has nothing of the polish or glibness of the poseur. He is a simple, earnest student of mechanical problems and not the sort of man to make a sentimental appeal for sympathy because of any grace of person or manner. Therefore it was the value of Meyers' invention, together with his essential integrity (in spite of his lapse) which so strongly impressed Miss Barnard that when she appeared before the Arizona legislature not long afterwards, addressing that body on the need of enlightened legislature along the line of her own work, she told the story of Roy Meyers and his epoch-making invention.

So, early in May, Meyers set out for Washington, unaccompanied.

In his own words: "When I arrived in Washington and laid my plans before the patent office experts, they merely smiled and told me that I would have to build a model and demonstrate my claims --- that it seemed strange that I, unknown as I am in the electrical world, should have accomplished the things for which Edison, Tesla and other experts have been striving for years.

"They could grasp the meaning of my drawings nor the explanation I tried to make to them. There was little time to spare, as I had only 20 days left of my leave, but I set to work in a few days was able to take a crude model around to the patent office to make a demonstration.

"Arriving at the patent office I telephoned to a friend who had been so kind as to introduce me and aid me in reaching the proper officials. The absorber was hoisted on two short poles and made to work. While they were as yet unable to understand the principles involved and hardly willing to believe their eyes, they were forced to admit that I had something new and different, and they told me that there would be no further objection; that I might file my application without further delay.

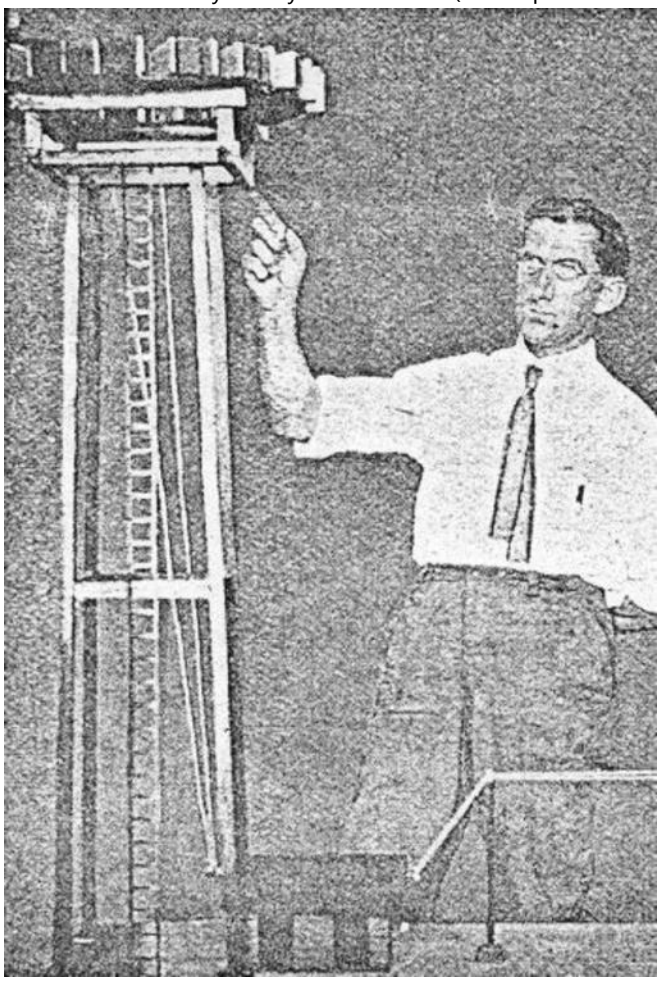
"I hope to construct my first large machine right here in Phoenix. I feel grateful; to Governor Hunt and others for what they have done for me and to the help they have given in securing protection I might not otherwise have had, and I am desirous of demonstrating this gratitude. I am going back to Florence today to resume the serving of my sentence, which will expire in 10 months. Then, here in Phoenix, I will begin the work of making my machines."

While there are some details of the device which the inventor refuses to make public, yet there are many general features that may be explained. It is planned that the machine, to be set up in Phoenix, will generate sufficient power to light the city, and will consist of a 200 foot tower upon which is placed the "absorber". The latter consists of a series of magnetized steel plates set in a circle (the manner of preparing them is kept secret) and this mechanism attracts the electricity from the atmosphere. This is carried by wires to a transformer in the engine house below and thence is applied to produce either power or light after the usual manner.

In an authorized statement Meyers says: "The flow of electricity is constant. When it emerges into the transformer it is in the form of a direct current. It will absorb the electricity day and night and will work whenever the wireless will work. I can put up a plant to supply such a building as the Adams Hotel for about $1500, and one of the principal items of the expense is the cost of the towers, the wires, the magnetizing of one set of plates, which is part of the secret of the treatment which makes it respond to the accumulations of the atmosphere.

"For use in the case of an electrical storm I have made what I call a modified form of circuit breaker, such as is commonly used as a lightning arrester on telegraph lines. In case of a storm the accumulator would suddenly become overcharged, possibly, and as the electricity would not of itself flow back into the air, the result might be disastrous. So I send it down into the ground, whenever the voltage rises above a certain amount."

Roy J. Meyers & the "Absorber"



Modern Electronics **(1914 ?)**

Electricity From Air New Great Discovery

by

Dr Leonard Keene Hirshberg

Working quietly in the heart of Baltimore for weeks on an invention which some critics say will revolutionize the method of converting electricity to practical use has been Roy J. Meyers, who like Benjamin Franklin, extracts the electric current from the air.

Mr Meyers invention was made last summer while he was confined in the penitentiary at Florence, Arizona. His first finished apparatus was made in Baltimore.

A practical, unlettered electrician, Mr Meyers, while in Arizona, was arrested on a comparatively minor charge and sent to the penitentiary. There he was placed in charge of the prison electrical plant, and there he says he made his discovery that the current which the civilized world is beginning to use most extensively for light and power could be transformed from the atmosphere without the

aid of moving machines or batteries.

Miss Kate Barnard, Commissioner of Charities and Corrections, of Oklahoma, hearing of Meyers' invention and of his desire to have it patented, appeared before the Arizona Legislature to make an appeal in behalf of the young convict. As a result a special bill was passed which granted Meyers a month's leave of absence on parole. He went unaccompanied to Washington, filed his patent applications and returned to the penitentiary. Since then he has been indefinitely paroled.

He came to Baltimore as the place where he could easily obtain the mechanical parts needed to make a more nearly perfect machine than the crude model he has fashioned in the penitentiary workshop, and is making his headquarters here while working on his invention. With him is W.E. Chenot, who has been his assistant in assembling and testing the machine and who says that he has bought Meyers' patent rights for Germany.

They have proved beyond doubt that the invention is practical and that when finally brought to a state of perfection it will introduce a new epoch in the industrial use of electricity. By Westinghouse meters they tested the strength of the current gathered from the air, and with the use of only two of the four rectifying transformers the voltmeter recorded four and one-half volts, and the ammeter, which had the capacity of recording 75 amperes, was broken by the force of the current.

The machine itself is simple. It is in reality a transformer, which is familiar to anyone knowing anything at all about electricity in its practical uses. On a high tripod, which resembles somewhat the framework of a windmill tower, is the transformer, which Mr Meyers calls his 'absorber'. It is made up of an iron core, wrapped with copper wire. The secret of the invention is the manner in which the disks composing this 'absorber' are magnetized, and this secret Meyers says he found by accident while at work in prison.

What the machine, when finally perfected, will do is yet to be seen. Its inventor claims that it will greatly reduce the cost of making electricity. No batteries of any kind are needed, he says, and not a part of the machine turns upon the other. It is as durable, apparently, as an electric light pole. One of these machines, says Meyers, when perfected may be placed on a vehicle and transform enough electricity to give motive power, be that vehicle a locomotive or an automobile. He declared it can be placed on a building to furnish electric lights or power, and that the only wear will be upon the machinery which its current runs.

Meyers is 34 years old and he gained his knowledge of electricity by working in shops along the Pacific Coast. The depths of the mysteries of electricity he has not explored, but he is certain that he has found the means of absorbing it from the air and of converting it to the use of mankind.

British (GB) Patent # 191301098

Improvements in and Relating to Apparatus for Producing Electricity.

1-14-1914

Roy Jerome Meyers

Classification: - international: H05F7/00; H05F7/00; - european: H05F7/00
Application number: GBD191301098 19130114
Priority number(s): GBT191301098 19130114
Abstract ~ Vapour apparatus, arrangements of. - A rectifier for use with apparatus for producing electricity from the earth consists of mercury- vapour lamps constructed and arranged as shown in Fig. 4. Each lamp comprises two wires 6<1>, 7<1> wound around a steel tube 15 surrounding a

mercury tube 11 preferably of copper. The coil 6<1> is connected between the electrode 14 and the terminal 18, and the coil 7<1> between the terminals 19, 5. The coils 6<1>, 7<1> are preferably composed of soft iron. Reference has been directed by the Comp- troller to Specifications 16,709/87, 14,033/99, and 5457/11, [all in Class 53, Galvanic batteries], and 15,412/06.

British Patent # 1098

(January 14, 1913)

Improvements in and Relating to Apparatus for Producing Electricity

Roy Jerome Meyers

This invention relates to improvements in apparatus for the production of electrical currents, and the primary object in view is the production of a commercially serviceable electrical current without the employment of mechanical or chemical action. To this end the invention comprises means for producing what I believe to be dynamic electricity from the earth and its ambient elements.

I am, of course aware that it has been proposed to obtain static charges from upper strata of the atmosphere, but such charges are recognized as of widely variant potential and have thus far proved of no practical commercial value, and the present invention is distinguished from all such apparatus as has heretofore been employed for attracting static charges by the fact that this improved apparatus is not designed or employed to produce or generate irregular, fluctuating or other electrical charges which lack constancy, but on the other hand I have by actual test been able to produce from a very small apparatus at comparatively low elevation, say about 50 or 60 feet above the earth's surface, a substantially constant current at a commercially usable voltage and amperage. This current I ascertained by repeated tests is capable of being readily increased by additions of the unit elements in the apparatus hereinafter set forth, and I am convinced from the constancy of the current obtained and its comparatively low potential that the current is dynamic and not static, although, of course, it is not impossible that certain static discharges occur and, in fact, I have found occasion to provide against the damage which might result from such discharge by the provision of lightning arresters and cut-out apparatus which assist in rendering the obtained current stable by eliminating sudden fluctuations which sometimes occur during conditions of high humidity from what I consider static discharges. The nature of my invention is obviously such that I have been unable to establish authoritatively all of the principles involved, and some of the theories herein expressed may possibly prove erroneous, but I do know and am able to demonstrate that the apparatus which I have discovered does produce, generate, or otherwise acquire a difference of potential representing a current amperage above stated, or varied therefrom at the will of the operator according to the uses which the current is to be subjected.

The invention comprises generically means for producing electrical currents of serviceable potential substantially without the employment of mechanical or chemical action, and in this connection I have been able to observe no chemical action whatever on the parts utilized although deterioration may possibly occur in some of the parts, but so far as I am able to determine such deterioration does not add to the current supply but is merely incidental to the effect of climatic action.

The invention more specifically comprises the employment of a magnet or magnets and a co-operating element, such as zinc disposed adjacent to the magnet or magnets and connected in such manner and arranged relative to the earth so as to produce current, my observation being that current is produced only when such magnets have their poles facing substantially to the north and

south and the zincs are disposed substantially along the magnets.

The invention also comprehends other details of construction, combinations and arrangements of parts as will hereinafter be fully set forth and claimed.

In the accompanying drawings:

Figure 1 is a top plan view of an apparatus embodying the features of the present invention, the arrow accompanying the figure indicating substantially the geographical north, parts of the figure being diagrammatic for condensing the showing.

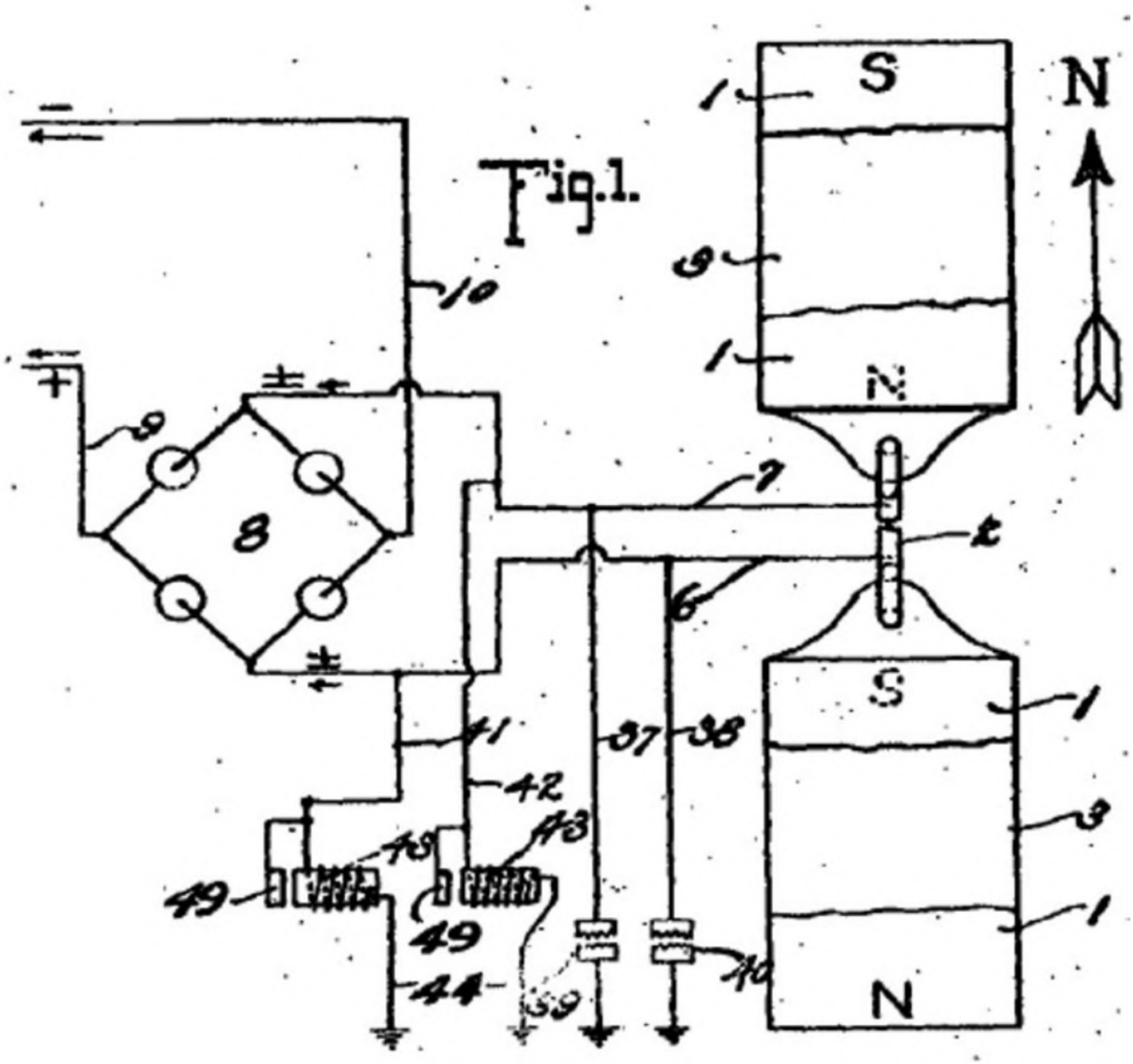


Figure 2 is a view is side elevation of the parts seen in plan in Figure 1.

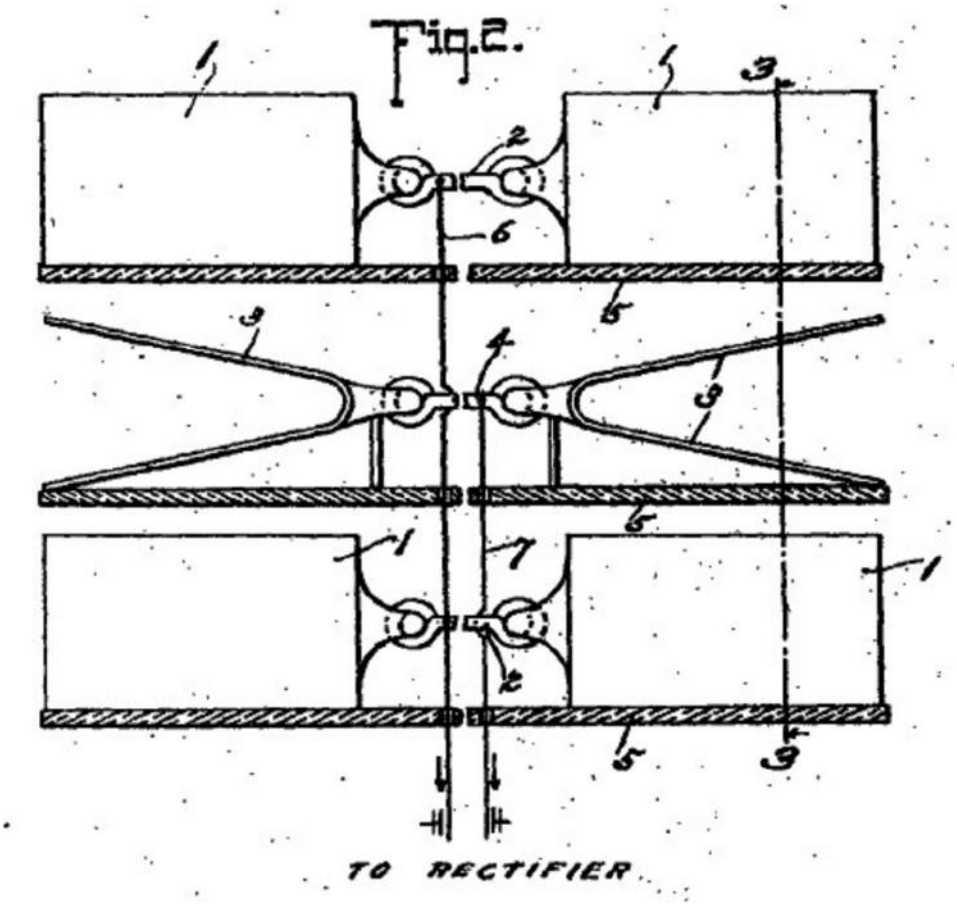


Figure 3 is a vertical section taken on the plane indicated by the line 3-3 of Figure 2 and looking in the direction indicated by the arrow.

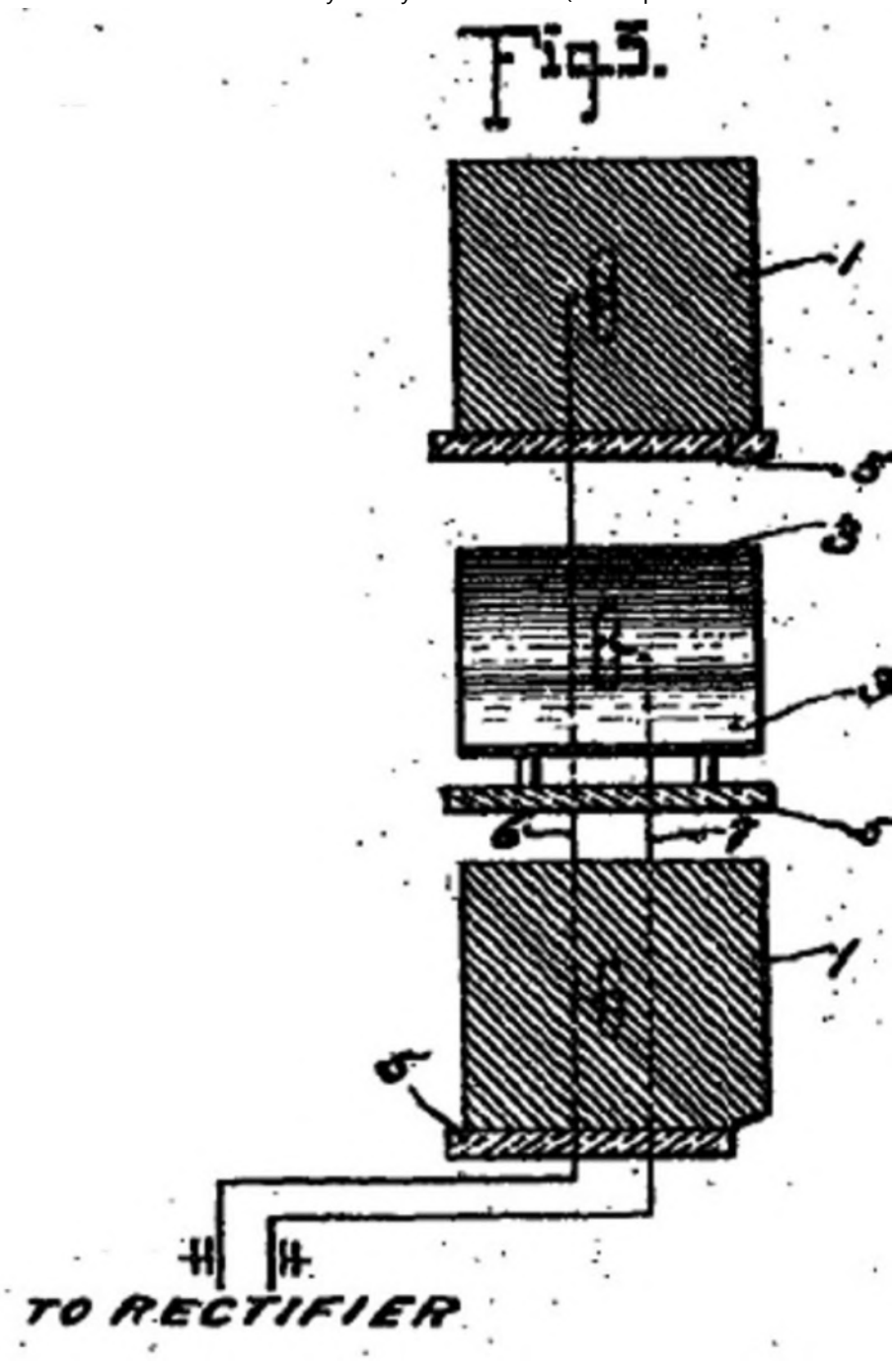


Figure 4 is a detail view partly in elevation and partly in section showing the detail connections of the converter and intensifier.

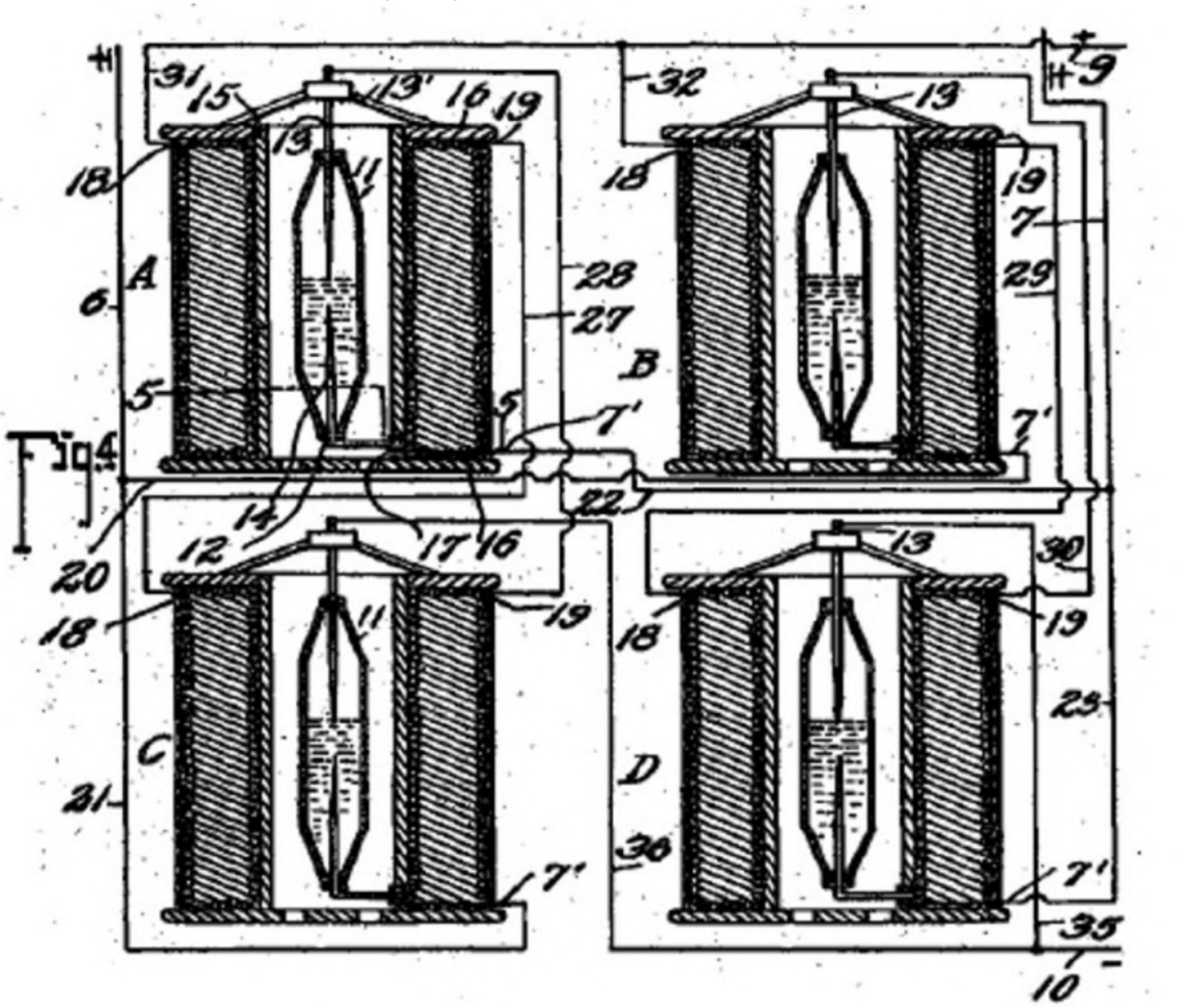


Figure 5 is a transverse section taken on the planes indicated by line 5-5 of Figure 4 and looking downwardly.

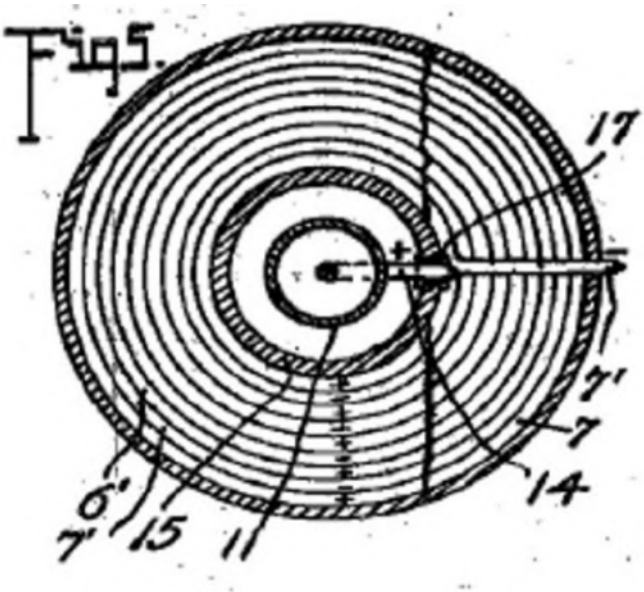


Figure 6 is an enlarged detail fragmentary section illustrating the parts at the juncture of the

conductors and one of the intensifiers.

Figure 7 is an enlarged detail view partly in elevation and partly in section of one of the automatic cut-outs and

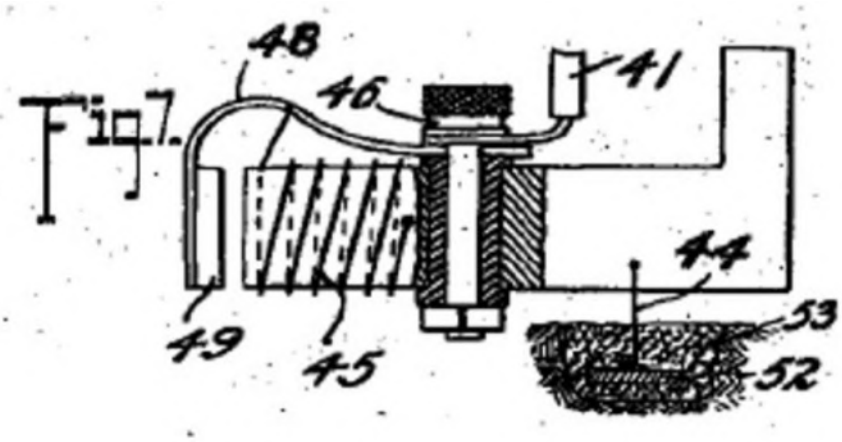
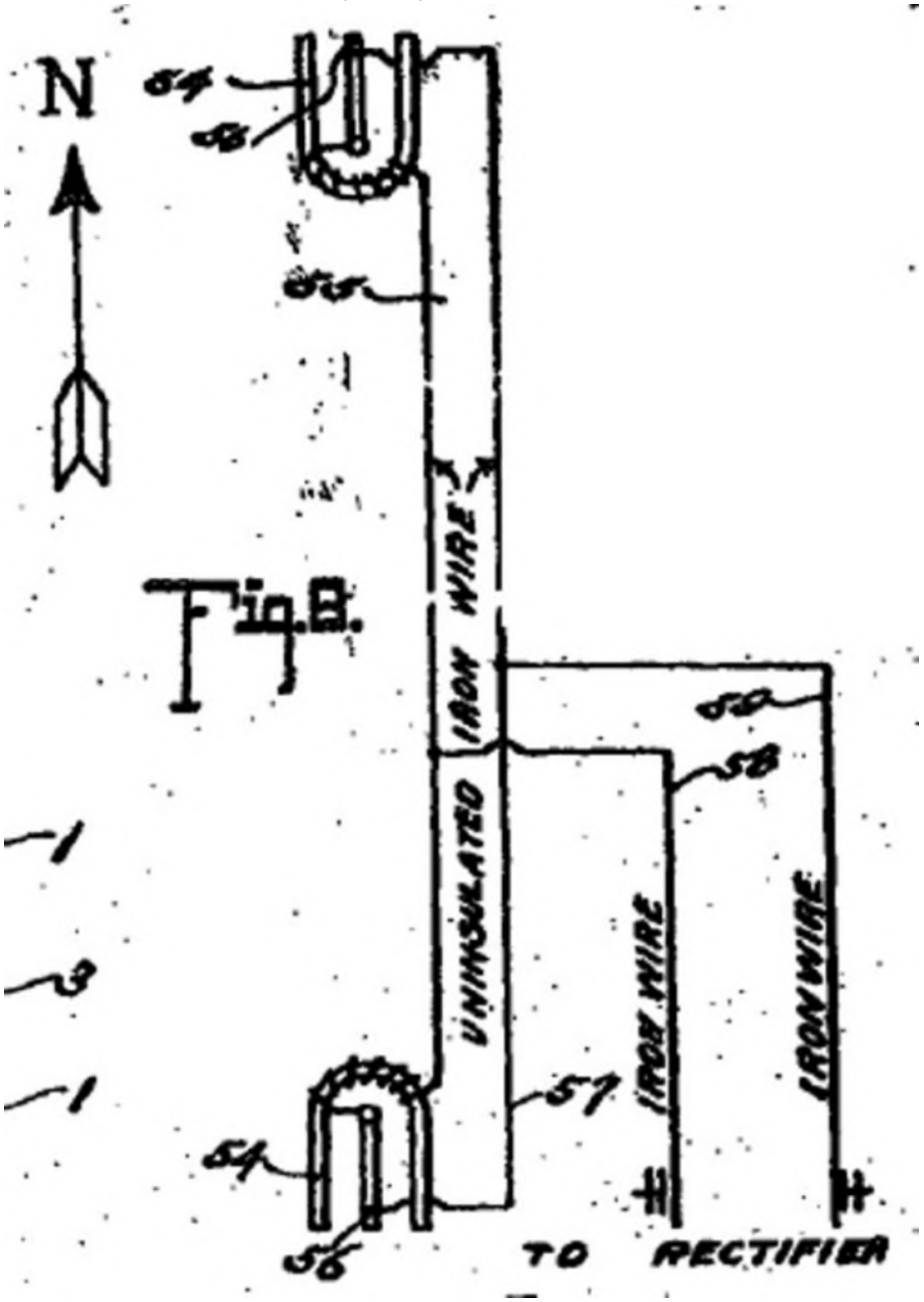


Figure 8 is a diagrammatic view of one of the simplest forms of embodiment of the invention.



Referring to the drawing by numerals, 1,1 indicates magnets connected by a magnetic substance 2, preferably an iron wire. The magnets 1 are arranged in pairs, one pair being spaced beneath the other, and interposed between the magnets are zinc plates 3,3 connected by an iron wire conductor 4. Suitable insulating supports 5 are arranged for sustaining the respective magnets 1 and plates 3,3. Each plate 3 is preferably bent substantially into V form, as clearly seen in Figure 1, and the V1 of one of the plates opens or faces toward the north and the V of the other plate to the South. I have determined by experimentation that it is essential that the plates 3 be disposed substantially north and south with their flat faces approximately parallel to the adjacent faces of the co-operating magnets, although by experience I have not discovered any material difference in the current obtained when the plates are disposed slightly to one side of north and south, as for instance when the plates are disposed slightly to one side of north and south, as for instance when disposed in the line of the magnetic polarity of the earth. The same is true with respect to the magnets 1, the said magnets being disposed substantially north and south for operative purposes, although I find that it is immaterial whether the north pole of one of the magnets is disposed to the north and the south pole to the south, or vice versa, and it is my conviction from experience that it is essential to have the magnets of each pair connected by magnetic material so that the magnets substantially become

one with a pole exposed to the north and a pole exposed to the north. In Figure 1, I have indicated in full lines by the letters 8 and N the respective polarities of the magnets 1, and have indicated in dotted lines the other pole of those magnets when the connection 2 is severed. I have found that the magnets and zinc plates operate to produce, whether by collection or generation I am not certain, electrical currents when disposed substantially north and south, but when disposed substantially east and west no such currents are produced. I also find that the question of elevation is by no means vital, but it is true that more efficient results are obtained by placing the zincs and magnets on elevated supports. I furthermore find from tests that it is possible to obtain currents from the apparatus with the zincs and magnets disposed in a building or otherwise enclosed, although more efficient results are obtained by having the said elements arranged in the open.

While in Figures 1, 2, and 3, I have shown the magnets and the zinc plates as superimposed, it will be apparent, as hereinafter fully set forth, that these elements may be juxtaposed in horizontal planes, and substantially the same results will be secured. Furthermore, the magnets 1 with the interposed zincs 3, as shown in Figures 1, 2 and 3 merely represent a unit which may be repeated either horizontally or vertically for increasing the current supply, and when the unit is repeated the zinc plates are arranged alternating with the magnets throughout the entire series as hereinafter indicated.

A conductor 6 is connected in multiple with the conductors 2 and a conductor 7 is connected with conductor 4, the conductor 6 extending to one terminal of a rectifier which I have indicated by the general reference character 8, and the conductor 7 extending to the other terminal of said rectifier. The rectifier as seen in diagram in Figure 1 may assume any of several well known embodiments of the electrical valve type and may consist of four asymmetric cells or Cooper-Hewitt mercury vapor lamps connected as indicated in Figure 1 for permitting communication of the positive impulses from the conductor 6 only to the line conductor 9 and the negative impulses from conductor 6 on only to the line conductor 10. The current from this rectifier may be delivered through the conductors 9 and 10 to any suitable source for consumption.

While the said rectifier 8 may consist of any of the known types, as above outlined, it preferably consists of a specially constructed rectifier which also has the capacity of intensifying the current and comprises specifically the elements shown in detail in Figures 4, 5, and 6 wherein I have disclosed the detail wiring of the rectifier when composed of four of the rectifying and intensify in elements instead of asymmetric cells or simple mercury vapor valves. As each of these structures is an exact embodiment of all the others, one only will be described, and the description will apply to all. The rectifying element of each construction consists of a mercury tube 11 which is preferably formed of glass or other suitable material, and comprises a cylinder having its end portions tapered and each terminating in an insulating plug or stopper 12. Through the upper stopper 12 is extended the electrode 13 which extends well into the tube and preferably substantially one-half the length thereof to a point adjacent the inner end of an opposing electrode 14 which latter electrode extends thence downwardly through the insulation 12 at the lower end of the tube. The tube 11 is supplied with mercury and is adapted to operate on the principle of the mercury vapor lamp, serving to rectify current by checking back impulses of one sign and permitting passage of impulses of the other. To avoid the necessity for utilizing a starter, as is common with the lamp type of electrical valve, the supply of mercury within the tube may be sufficient to contact with the lower end of the electrode 13 when current is not being supplied, so that as soon as current is passed from one electrode to the other sufficiently for volatilizing that portion of the mercury immediately adjacent the lower end of electrode 13, the structure begins its operation as a rectifier. The tube 11 is surrounded by a tube 15 which is preferably spaced from tube 11 sufficiently for allowing atmospheric or other cooling circulation to pass the tube 11. In some instances, it may be desirable to cool the tube 11 by a surrounding body of liquid, as hereinafter indicated. The tube 15 may be of insulating material but I find efficient results attained by the employment of a steel tube, and fixed to the ends of the of the

tube are insulating disks 16, 16 forming a spool on which are wound twin wires 6^1 and 7^1, the wire 6^1 being connected at the inner helix of the coil with the outer end of the electrode 14, the lower portion of said electrode being extended to one side of the tube 11 and passed through an insulating sleeve 17 extending through the tube 15, and at its outer end merging into the adjacent end of the wire 6^1. The wire 7^1 extends directly from the outer portion of the spool through the several helices to a point adjacent the juncture of the electrode 14 with wire 6^1 and thence extends in mechanical parallelism with the wire throughout the coil, the wire 6^1 ending in a terminal 18 and the wire 7^1 ending in a terminal 19. For the sake of convenience of description and of tracing the circuits, each of the apparatus just above described and herein known as an intensifier and rectifier will be mentioned as A, B, C and D, respectively. Conductor 6 is formed with branches 20 and 21 and conductor 7 is formed with similar branches 22 and 23. Branch 20 from conductor 6 connects with conductor 7^1 of intensifier B and branch 21 of conductor 6 connects with the conductor 7^1 of intensifier C, while branch 22 of conductor 7 of intensifier C, while branch 22 of conductor 7 connects with conductor 7^1 of intensifier D. A conductor 27 is connected with terminal 19 of intensifier A and extends to and is connected with the terminal 18 of intensifier C, and a conductor 7 connects with conductor 7^1 of intensifier D. A conductor 27 is connected with terminal 19 of intensifier A. and extends to and is connected with terminal 18 of intensifier C, and a conductor 28 is connected with the terminal 19 of intensifier C and extends from the terminal 19 of intensifier B to the terminal 18 of intensifier D to electrode 13 of intensifier B. Each electrode 13 is supported on a spider 13^1 resting on the upper disk 16 of the respective intensifier. Conductors 31 and 32 are connected with the terminals 18 of intensifiers A and B and are united to form the positive line wire 9 which co-operates with the negative line wire 10 and extends to any suitable point of consumption. The line wire 10 is provided with branches 35 and 36 extending to the electrodes 13 of intensifiers C and D for completing the negative side of the circuit.

Thus it will be seen that alternating currents produced in the wires 6 and 7 will be rectified and delivered in the form of a direct current through the line wires 9 and 10, and I find by experiment that the wires 6 and 7 should be of iron, preferably soft, and may of course be insulated, the other wiring not specified as iron being of copper or other suitable material.

In carrying out the operation as stated, the circuits may be traced as follows: A positive impulse starting at the zincs 3 is directed along conductor 7 to branch 23 to conductor 7^1 and the winding of the rectifier of intensifier B through said rectifier to the conductor 6^1, through the winding thereof to the contact 18, conductor 32 and to the line wire 9. The next or negative impulse directed along conductor 7 cannot find its way along branch 23 and the circuit just above traced because it cannot pass across the rectifier of intensifier B but instead the negative impulse passes along conductor 22 to conductor 7 of intensifier A and the winding thereof to the contact 19 and to conductor 27 to contact 18 of intensifier C, to the winding of the wire 6^1 thereof to the electrode 14 through the rectifier to the of the electrode 13 and conductor of intensifier A, electrode 14 thereof and conductor 6^1 to contact 18 and wire 31 to line wire 9. Obviously the positive impulse cannot pass along the wire 20 because of its inverse approach to the rectifier of intensifier B. The next impulse or negative impulse delivered to conductor 6 cannot pass along conductor 21 because of its connection with electrode 13 of the rectifier of intensifier A, but instead passes along conductor 20 to the wire 7^1 and its winding forming part of intensifier B to the contact 19 and conductor 29 to contact 18 and the winding of wire 6^1 of intensifier D to the electrode 14 and through the rectifier to the electrode 13 and conductor 35 to line wire 10. Thus the current is rectified and all positive impulses directed along one line and all negative impulses along the other lie s that the potential difference between the two lines will be maximum for the given current of the alternating circuit. It is, of course, apparent that a less number of intensifiers with their accompanying rectifier elements may be employed with a sacrifice of the impulses which are checked back from a lack of ability to pass the respective rectifier elements, and in fact I have secured efficient results by the use of a single intensifier with its rectifier elements, as hereinafter set

forth.

Grounding conductors 37 and 38 are connected respectively with the conductors 6 and 7 and are provided with the ordinary lightning arresters 39 and 40 respectively for protecting the circuit against high tension static charges.

Conductors 41 and 42 are connected respectively with the conductors 6 and 7 and each connects with an automatic cutout 43 which is grounded as at 4. Each of said automatic cutouts is exactly like the other and one of the same is shown in detail in Figure 7 and comprises the inductive resistance 45 provided with an insulated binding post 46 wit which the respective conductor 6 or 7 is connected, said post also supporting a spring 48 which sustains an armature 49 adjacent to the core of the resistance 45. The helix of resistance 45 is connected preferably through the spring to the binding post at one end and at the other end is grounded on the core of the resistance, the said core being grounded by ground conductor 44 which extends to the metallic plate 52 embedded in moist carbon or other inductive material buried in the earth. Each of the conductors 41, 42 and 44 is of iron, and in this connection I wish it understood that where I state the specific substance I am able to verify the accuracy of the statement by the results of tests which I have made, but of course I wish to include along with such substances al equivalents, as for instance, where iron is mentioned its byproducts, such as steel, and its equivalents such as nickel and other magnetic substances are intended to be comprehended. The cutout apparatus seen in detail in Figure 7 is employed particularly for insuring against high tension currents, it being obvious from the structure shown that when potential rises beyond the limit established by the tension of the spring sustaining the armature 40, the armature will be moved to a position contacting with the core of the cutout device and thereby directly close the ground connection for line wire 41 with conductor 44, eliminating the resistance of winding 45 and allowing the high tension current to be discharged to the ground. Immediately upon such discharge the winding 45 losing its current will allow the core to become demagnetized and release the armature 49 whereby the ground connection is substantially broken leaving only the connection through the winding 45 the resistance of which is sufficient for insuring against loss of low tension current.

In Figure 8 I have illustrated an apparatus which though apparently primitive in construction and arrangement comprehends the first successful embodiment which I produced in the course of discovery of the present invention, and it will be observed that the essential features of the invention are therein disclosed. The structure delineated in said figure consists of horseshoe magnets 54, 55, one facing north and the other south, that is, each opening in the respective directions indicated and the two being connected by an iron wire 55 which is uninsulated and wrapped about the respective magnets each end portion of the wire 55 being extended from the respective magnets to and connected with, as by being soldered to, a zinc plate 56, there being a plate 56 for each magnet and each plate being arranged longitudinally substantially parallel with the legs of the magnet and with the faces of the plate exposed toward the respective legs of the magnet, the plate being thus arranged endwise toward the north and south. An iron wire 57 connects the plates 56, the ends of the wire being preferably connected adjacent the outer ends of the plates but from experiment I find that the wire may be connected at practically any point to the plate. Lead wires 58 and 59 are connected respectively with the wires 55 and 57 and supply an alternating current at a comparatively low tension, and to control such current the wires 58 and 59 may be extended to a rectifier or combined rectifier and intensifier, as above set forth.

The tests which I have found successful with the apparatus seen in Figure 8 were carried out by the employment first of horseshoe magnets approximately 4 inches in length, the bar comprising the horseshoe being about one inch square, the zincs being dimensioned proportionately and from this apparatus with the employment of a single intensifier and rectifier, as above stated, I was able to obtain a constant current of 8 volts.

It should be obvious that the magnets forming one of the electrodes of this apparatus may be permanent or may be electromagnets, or a combination of the two.

While the magnets mentioned throughout the above may be formed of any magnetic substance, I find the best results obtained by the employment of the nickel chrome steel.

While the successful operation of the various devices which I have constructed embodying the present invention have not enabled me to arrive definitely and positively at fixed conclusion relative to the principles and theories of operation and the source from which current is supplied, I wish it to be understood that I consider myself as the first inventor of the general type hereinbefore described capable of producing commercially serviceable electricity, for which reason my claims hereinafter appended contemplate that I may utilize a wide range of equivalents so far as concerns details of construction suggested as preferably employed.

The current which I am able to obtain is dynamic in the sense that it is not static and its production is accomplished without chemical or mechanical action either incident to the actual chemical or mechanical motion or incident to changing caloric conditions so that the elimination of necessity for the use of chemical or mechanical action is to be considered as including the elimination of the necessity for the use of heat or varying degrees thereof.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is: --- [Claims not included here]

NOTES & COMMENTS

From the Article in *Tech. World Mag*.:

1. First demo model was powerful enough to spark a gas engine.
2. Second model developed 8 volts.
3. Demo model at Patent Office was elevated on short poles.
4. The model planned to power Phoenix AZ would be elevated 200 feet.
5. The Absorber "consists of a series of magnetized steel plates set in a circle (the manner of preparing them is kept secret)".
6. "[T]he magnetizing of one set of plates... is part of the secret of the treatment which makes it respond to the accumulations of the atmosphere".

From British Patent # 1098 (1913):

"I have been able... to produce from a very small apparatus at comparatively low elevation, say about 50 or 60 feet above the earth's surface, a substantially constant current at a commercially useable voltage and amperage".

"This current... is capable of being readily increased by additions of the unit elements in the apparatus".

Fig. 1 and Fig. 2 show the magnet poles are connected N-S by a thick iron rod (thick compared to the lines used for wires in the drawings).

No angle is specified for the V-shaped zinc plates. The article (but not the patent) states that the plates are magnetized (obviously not zinc). Zinc-galvanized steel? Will a thin film of Zn work? Or, powdered Zn in a binder (more surface area)? Or, zinc-galvanized iron wire in a coil?

The Palmer Craig device (www.rexresearch.com/craig/craig.htm) is powered by the terrestrial

magnetic field, and employs a thin film of bismuth to capture the energy as diamagnetism. Perhaps this can be integrated with Meyers' device.

Figure 8 (the demonstration of principle) show uninsulated iron wire being used to connect the plates and magnets. The wire is wound around the Bloch wall area of the horseshoe magnets. Perhaps Coler-type windings around the poles could be used here (See: www.rexresearch.com/coler/coler.htm). Coler used copper plates as "condensers" in his device. Could copper plates be used for the Meyers device? Perhaps flat (Tesla non-inductive) coils could be integrated here.

"It is essential that the plates 3 be disposed substantially N and S with their flat faces approximately parallel to the adjacent faces of the co-operating magnets....

"I find that it is immaterial whether the N pole of one of the magnets is disposed to the N and the S pole to the S, or vice versa".

"[T]he magnets and zinc plates... produce electrical currents when disposed... N and S, but when disposed... E and W no such currents are produced".

"[E]levation is by no means vital, but... more efficient results are obtained by placing the zincs and magnets on elevated supports".

"The elements may be disposed in horizontal planes [or vertically]...".

The "zinc plate 56... [is] arranged longitudinally substantially parallel with the legs of the magnet and with the faces of the plate exposed toward the respective legs of the magnet, the plate being thus arranged endwise toward the north and south".

The first model used "horseshoe magnets approximately 4 inches in length, the bar comprising the horseshoe being about one inch square, the zincs being dimensioned proportionately and from this apparatus with the employment of a single intensifier and rectifier, as above stated, I was able to obtain a constant current of 8 volts... [T]he magnets... may be permanent or may be electromagnets, or a combination of the two... I find the best results obtained by... nickel chrome steel".

Comments & Questions:

The rectifier is described as a preferred embodiment, but other designs also work. The Ed Gray capacitor design comes to mind (www.rexresearch.com/evgray/1gray.htm). The Tate Ambient Power Module also might apply (www.rexresearch/tate/tate.htm).

Would non-ferrous magnets work? Is there a frequency involved (oscilloscope tests)? Coler found that ferromagnetism has a resonant frequency about 180 KHz. Can the components be made adjustable for RLC-resonance?

N° 1098 A.D. 1913

Date of Application, 14th Jan., 1913—Accepted, 14th Jan., 1914

COMPLETE SPECIFICATION.

Improvements in and relating to Apparatus for Producing Electricity.

I, Roy Jerome Meyers, of Hotel Altamont, Baltimore, in the State of Maryland, United States of America, Electrician, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in apparatus for the production of electrical currents, and the primary object in view is the production of a commercially serviceable electrical current without the employment of mechanical or chemical action. To this end the invention comprises means for producing what I believe to be dynamic electricity from the earth and its ambient elements.

I am, of course, aware that it has been proposed to obtain static charges from upper strata of the atmosphere, but such charges are recognized as of widely variant potential and have thus far proved of no practical commercial value, and the present invention is distinguished from all such apparatus as has heretofore been employed for attracting static charges by the fact that this improved apparatus is not designed or employed to produce or generate irregular, fluctuating or other electrical charges which lack constancy, but on the other hand I have by actual test been able to produce from a very small apparatus at comparatively low elevation, say about fifty or sixty feet above the earth's surface, a substantially constant current at a commercially usable voltage and amperage. This current I ascertained by repeated tests is capable of being readily increased by additions of the unit elements in the apparatus hereinafter set forth, and I am convinced from the constancy of the current obtained and its comparatively low potential that the current is dynamic and not static, although, of course, it is not impossible that certain static discharges occur and, in fact, I have found occasion to provide against the damage which might result from such discharge by the provision of lightning arresters and cut-out apparatus which assist in rendering the obtained current stable by eliminating sudden fluctuations which sometimes occur during conditions of high humidity from what I consider static discharges. The nature of my invention is obviously such that I have been unable to establish authoritatively all of the principles involved, and some of the theories herein expressed may possibly prove erroneous, but I do know and am able to demonstrate that the apparatus which I have discovered does produce, generate, or otherwise acquire a difference of potential representing a current value which is commercially serviceable and may be delivered at the voltage and amperage above stated, or varied therefrom at the will of the operator according to the uses to which the current is to be subjected.

The invention comprises generically means for producing electrical currents of serviceable potential substantially without the employment of mechanical or chemical action, and in this connection I have been able to observe no chemical action whatever on the parts utilized although deterioration may possibly occur in some of the parts, but so far as I am able to determine such deterioration does not add to the current supply but is merely incidental to the effect of climatic action.

The invention more specifically comprises the employment of a magnet or

[Price 8d.]

magnets and a co-operating element, such as zinc disposed adjacent to the magnet or magnets and connected in such manner and arranged relative to the earth so as to produce current, my observation being that current is produced only when such magnets have their poles facing substantially to the north and south and the zincs are disposed substantially along the magnets.

The invention also comprehends other details of construction, combinations and arrangements of parts as will hereinafter be fully set forth and claimed.

In the accompanying drawings:

Figure 1 is a top plan view of an apparatus embodying the features of the present invention, the arrow accompanying the figure indicating substantially the geographical north, parts of the figure being diagrammatic for condensing the showing.

Figure 2 is a view in side elevation of the parts seen in plan in Figure 1.

Figure 3 is a vertical section taken on the plane indicated by the line 3—3 of Figure 2 and looking in the direction indicated by the arrow.

Figure 4 is a detail view partly in elevation and partly in section showing the detail connections of the converter and intensifier.

Figure 5 is a transverse section taken on the planes indicated by line 5—5 of Figure 4 and looking downwardly.

Figure 6 is an enlarged detail fragmentary section illustrating the parts at the juncture of the conductors and one of the intensifiers.

Figure 7 is an enlarged detail view partly in elevation and partly in section of one of the automatic cut-outs and

Figure 8 is a diagrammatic view of one of the simplest forms of embodiments of the invention.

Referring to the drawing by numerals, 1, 1 indicates magnets connected by a magnetic substance 2, preferably an iron wire. The magnets 1 are arranged in pairs, one pair being spaced beneath the other, and interposed between the magnets are zinc plates 3, 3 connected by an iron wire conductor 4. Suitable insulating supports 5 are arranged for sustaining the respective magnets 1 and plates 3, 3. Each plate 3 is preferably bent substantially into V form, as clearly seen in Figure 1, and the V of one of the plates opens or faces toward the north and the V of the other plate to the south. I have determined by experimentation that it is essential that the plates 3 be disposed substantially north and south with their flat faces approximately parallel to the adjacent faces of the co-operating magnets, although by experience I have not discovered any material difference in the current obtained when the plates are disposed slightly to one side of north and south, as for instance when disposed in the line of the magnetic polarity of the earth. The same is true with respect to the magnets 1, the said magnets being disposed substantially north and south for operative purposes, although I find that it is immaterial whether the north pole of one of the magnets is disposed to the north and the south pole to the south, or *vice versa*, and it is my conviction from experience that it is essential to have the magnets of each pair connected by magnetic material so that the magnets substantially become one with a pole exposed to the north and a pole exposed to the south. In Figure 1, I have indicated in full lines by the letters S and N the respective polarities of the magnets 1, and have indicated in dotted lines the other poles of those magnets when the connection 2 is severed. I have found that the magnets and zinc plates operate to produce, whether by collection or generation I am not certain, electrical currents when disposed substantially north and south, but when disposed substantially east and west no such currents are produced. I also find that the question of elevation is by no means vital, but it is true that more efficient results are obtained by placing the zincs and magnets on elevated supports. I furthermore find from tests that it is possible to obtain currents from the apparatus with the zincs and magnets disposed in a building or otherwise enclosed, although more efficient results are obtained by having the said elements arranged in the open.

While in Figures 1, 2 and 3, I have shown the magnets and the zinc plates as superimposed, it will be apparent, as hereinafter fully set forth, that these elements may be juxtaposed in horizontal planes, and substantially the same results will be secured. Furthermore, the magnets 1 with the interposed zincs 3, as shown in Figures 1, 2 and 3 merely represent a unit which may be repeated either horizontally or vertically for increasing the current supply, and when the unit is repeated the zinc plates are arranged alternating with the magnets throughout the entire series as hereinafter indicated.

A conductor 6 is connected in multiple with the conductors 2 and a conductor 7 is connected with conductor 4, the conductor 6 extending to one terminal of a rectifier which I have indicated by the general reference character 8, and the conductor 7 extending to the other terminal of said rectifier. The rectifier as seen in diagram in Figure 1 may assume any of several well known embodiments of the electrical valve type and may consist of four assymmetric cells or Cooper-Hewitt mercury vapor lamps connected as indicated in Figure 1 for permitting communication of the positive impulses from conductor 7 only to the line conductor 9 and the negative impulses from the conductor 7 only to the line conductor 10, and permitting the positive impulses from the conductor 6 only to the line conductor 9 and the negative impulses from conductor 6 only to the line conductor 10. The current from this rectifier may be delivered through the conductors 9 and 10 to any suitable source for consumption.

While the said rectifier 8 may consist of any of the known types, as above outlined, it preferably consists of a specially constructed rectifier which also has the capacity of intensifying the current and comprises specifically the elements shown in detail in Figures 4, 5 and 6 wherein I have disclosed the detail wiring of the rectifier when composed of four of the rectifying and intensifying elements instead of assymmetric cells or simple mercury vapor valves. As each of these structures is an exact embodiment of all the others, one only will be described, and the description will apply to all. The rectifying element of each construction consists of a mercury tube 11 which is preferably formed of copper but may be formed of glass or other suitable material, and comprises a cylinder having its end portions tapered and each terminating in an insulating plug or stopper 12. Through the upper stopper 12 is extended the electrode 13 which extends well into the tube and preferably substantially one-half the length thereof to a point adjacent the inner end of an opposing electrode 14 which latter electrode extends thence downwardly through the insulation 12 at the lower end of the tube. The tube 11 is supplied with mercury and is adapted to operate on the principle of the mercury vapor lamp, serving to rectify current by checking back impulses of one sign and permitting passage of impulses of the other. To avoid the necessity for utilizing a starter, as is common with the lamp type of electrical valve, the supply of mercury within the tube may be sufficient to contact with the lower end of the electrode 13 when current is not being supplied, so that as soon as current is passed from one electrode to the other sufficiently for volatilizing that portion of the mercury immediately adjacent the lower end of electrode 13, the structure begins its operation as a rectifier. The tube 11 is surrounded by a tube 15 which is preferably spaced from tube 11 sufficiently for allowing atmospheric or other cooling circulation to pass the tube 11. In some instances, it may be desirable to cool the tube 11 by a surrounding body of liquid, as hereinafter indicated. The tube 15 may be of insulating material but I find efficient results attained by the employment of a steel tube, and fixed to the ends of the tube are insulating disks 16, 16 forming a spool on which are wound twin wires 6^1 and 7^1, the wire 6^1 being connected at the inner helix of the coil with the outer end of the electrode 14, the lower portion of said electrode being extended to one side of the tube 11 and passed through an insulating sleeve 17 extending through the tube 15, and at its outer end merging into the adjacent end of the wire 6^1. The wire 7^1 extends directly from the outer portion of the spool through the

several helices to a point adjacent the juncture of the electrode 14 with wire 6^1 and thence extends in mechanical parallelism with the wire throughout the coil, the wire 6^1 ending in a terminal 18 and the wire 7^1 ending in a terminal 19. For the sake of convenience of description and of tracing the circuits, each of the apparatus just above described and herein known as an intensifier and rectifier will be mentioned as A, B, C and D, respectively. Conductor 6 is formed with branches 20 and 21 and conductor 7 is formed with similar branches 22 and 23. Branch 20 from conductor 6 connects with conductor 7^1 of intensifier B and branch 21 of conductor 6 connects with the conductor 7^1 of intensifier C, while branch 22 of conductor 7 connects with conductor 7^1 of intensifier A and branch 23 of conductor 7 connects with conductor 7^1 of intensifier D. A conductor 27 is connected with terminal 19 of intensifier A and extends to and is connected with terminal 18 of intensifier C, and a conductor 28 is connected with the terminal 19 of intensifier C and extends to and is connected with electrode 13 of intensifier A. A conductor 29 extends from the terminal 19 of intensifier B to the terminal 18 of intensifier D and a conductor 30 extends from the terminal 19 of intensifier D to electrode 13 of intensifier B. Each electrode 13 is supported on a spider 13^1 resting on the upper disk 16 of the respective intensifier. Conductors 31 and 32 are connected with the terminals 18 of intensifiers A and B and are united to form the positive line wire 9 which co-operates with the negative line wire 10 and extends to any suitable point of consumption. The line wire 10 is provided with branches 35 and 36 extending to the electrodes 13 of intensifiers C and D for completing the negative side of the circuit.

Thus it will be seen that alternating currents produced in the wires 6 and 7 will be rectified and delivered in the form of a direct current through the line wires 9 and 10, and I find by experiment that the wires 6 and 7 should be of iron, preferably soft, and may of course be insulated, the other wiring not specified as iron being of copper or other suitable material.

In carrying out the operation as stated, the circuits may be traced as follows: A positive impulse starting at the zincs 3 is directed along conductor 7 to branch 23 to conductor 7^1 and the winding of intensifier D to terminal 19 through conductor 30 to electrode 13 of the rectifier of intensifier B through said rectifier to the conductor 6^1, through the winding thereof to the contact 18, conductor 32 and to the line wire 9. The next or negative impulse directed along conductor 7 cannot find its way along branch 23 and the circuit just above traced because it cannot pass across the rectifier of intensifier B but instead the negative impulse passes along conductor 22 to conductor 7 of intensifier A and the winding thereof to the contact 19 to conductor 27 to contact 18 of intensifier C, to the winding of the wire 6^1 thereof to the electrode 14 through the rectifier to the electrode 13 and conductor 36 to the line wire 10. A positive impulse delivered to wire 6 passes along the said wire to the branch 21 to the conductor 7^1 of intensifier C and the winding thereof to the contact 19, conductor 28, electrode 13 of the rectifier of intensifier A, electrode 14 thereof and conductor 6^1 to contact 18 and wire 31 to line wire 9. Obviously the positive impulse cannot pass along the wire 20 because of its inverse approach to the rectifier of intensifier B. The next impulse or negative impulse delivered to conductor 6 cannot pass along conductor 21 because of its connection with electrode 13 of the rectifier of intensifier A, but instead passes along conductor 20 to the wire 7^1 and its winding forming part of intensifier B to the contact 19 and conductor 29 to contact 18 and the winding of wire 6^1 of intensifier D to the electrode 14 and through the rectifier to the electrode 13 and conductor 35 to line wire 10. Thus the current is rectified and all positive impulses directed along one line and all negative impulses along the other line so that the potential difference between the two lines will be maximum for the given current of the alternating circuit. It is, of course, apparent that a less number of intensifiers with their accompanying rectifier elements may be

employed with a sacrifice of the impulses which are checked back from a lack of ability to pass the respective rectifier elements, and in fact I have secured efficient results by the use of a single intensifier with its rectifier elements, as hereinafter set forth.

Grounding conductors 37 and 38 are connected respectively with the conductors 6 and 7 and are provided with the ordinary lightning arresters 39 and 40 respectively for protecting the circuit against high tension static charges.

Conductors 41 and 42 are connected respectively with the conductors 6 and 7 and each connects with an automatic cut-out 43 which is grounded as at 44. Each of said automatic cut-outs is exactly like the other and one of the same is shown in detail in Figure 7 and comprises the inductive resistance 45 provided with an insulated binding post 46 with which the respective conductor 6 or 7 is connected, said post also supporting a spring 48 which sustains an armature 49 adjacent the core of the resistance 45. The helix of resistance 45 is connected preferably through the spring to the binding post at one end and at the other end is grounded on the core of the resistance, the said core being grounded by ground conductor 44 which extends to the metallic plate 52 imbedded in moist carbon or other inductive material 53 buried in the earth. Each of the conductors 41, 42 and 44 is of iron, and in this connection I wish it understood that where I state the specific substance I am able to verify the accuracy of the statement by the results of tests which I have made, but of course I wish to include along with such substance all equivalents, as for instance, where iron is mentioned its by-products, such as steel, and its equivalents such as nicked and other magnetic substances are intended to be comprehended. The cut-out apparatus seen in detail in Figure 7 is employed particularly for insuring against high tension currents it being obvious from the structure shown that when potential rises beyond the limit established by the tension of the spring sustaining the armature 49, the armature will be moved to a position contacting with the core of the cut-out device and thereby directly close the ground connection for line wire 41 with conductor 44, eliminating the resistance of winding 45 and allowing the high tension current to be discharged to the ground. Immediately upon such discharge the winding 45 losing its current will allow the core to become demagnetized and release the armature 49 whereby the ground connection is substantially broken leaving only the connection through the winding 45 the resistance of which is sufficient for insuring against loss of low tension current.

In Figure 8 I have illustrated an apparatus which though apparently primitive in construction and arrangement comprehends the first successful embodiment which I produced in the course of the discovery of the present invention, and it will be observed that the essential features of the invention are therein disclosed. The structure delineated in said figure consists of horse shoe magnets 54, 54, one facing north and the other south, that is, each opening in the respective directions indicated and the two being connected by an iron wire 55 which is uninsulated and wrapped about the respective magnets at or adjacent the neutral zone thereof, and the wire 55 is preferably soldered to the respective magnets each end portion of the wire 55 being extended from the respective magnet to and connected with, as by being soldered to, a zinc plate 56, there being a plate 56 for each magnet and each plate being arranged longitudinally substantially parallel with the legs of the magnet and with the faces of the plate exposed toward the respective legs of the magnet, the plate being thus arranged endwise toward the north and south. An iron wire 57 connects the plates 56, the ends of the wire being preferably connected adjacent the outer ends of the plates but from experiment I find that the wire may be connected at practically any point to the plate. Lead wires 58 and 59 are connected respectively with the wires 55 and 57 and supply an alternating current ordinarily at a comparatively low tension, and to control such current the wires 58 and 59 may be extended to a rectifier or combined rectifier and intensifier, as above set forth.

The tests which I have found successful with the apparatus seen in Figure 8 were carried out by the employment first of horse shoe magnets approximately four inches in length, the bar comprising the horse shoe being about one inch square, the zincs being dimensioned proportionately and from this apparatus with the employment of a single intensifier and rectifier, as above stated, I was able to obtain a constant current of 8 volts.

It should be obvious that the magnets forming one of the electrodes of this apparatus may be permanent or may be electro-magnets, or a combination of the two.

While the magnets mentioned throughout the above may be formed of any magnetic substance, I find the best results obtained by the employment of the nickel chrome steel.

While the successful operation of the various devices which I have constructed embodying the present invention have not enabled me to arrive definitely and positively at fixed conclusions relative to the principles and theories of operation and the source from which current is supplied, I wish it to be understood that I consider myself as the first inventor of an apparatus of the general type hereinbefore described capable of producing commercially serviceable electricity, for which reason my claims hereinafter appended contemplate that I may utilize a wide range of equivalents so far as concerns details of construction suggested as preferably employed.

The current which I am able to obtain is dynamic in the sense that it is not static and its production is accomplished without chemical or mechanical action either incident to the actual chemical or mechanical motion or incident to changing calorific conditions so that the elimination of necessity for the use of chemical or mechanical action is to be considered as including the elimination of the necessity for the use of heat or varying degrees thereof.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. Means for producing dynamic electricity without mechanical or chemical action.

2. Electricity producing means as claimed in Claim 1, characterized in that said means is capable of producing low tension current.

3. Electricity producing means as claimed in Claim 1, characterized in that said means comprises a magnet, and means co-operating with the latter.

4. Means as set forth in Claim 3, characterized in that the parts are stationary.

5. Means as claimed in Claim 3, characterized in that the magnet is disposed substantially north and south.

6. Means as claimed in Claims 1, 3 and 5, wherein the means coacting with the magnet is a metal and said parts are disposed substantially north and south.

7. Means as claimed in Claims 1, 3 and 6, in which the metal is zinc, and combined with conductors connected with the co-operating parts to deliver current therefrom.

8. Means as set forth in Claim 1, characterized in that said means comprises spaced magnets with an adjacent co-operating zinc, and an iron wire connecting the magnets, and means to deliver electrical current from said parts.

9. Means as set forth in Claim 8, characterized in that the current delivery means comprises an intensifier and rectifier.

10. Means as set forth in Claim 8, characterized in that the current delivery means comprises wires connected with the magnets and zinc, an electrical valve connected with one of said wires, and independent helices surrounding said valve, one of said helices being connected with the terminal of the valve at the opposite side from the contact of said wire and the other of said helices being connected with the other wire, the electrical valve comprising a mercury vapor rectifier.

11. The process of producing electricity comprising exposing a magnet and

co-operating means disposed substantially north and south and taking off current therefrom.

12. The process of producing electricity comprising disposing stationary elements in co-operative relation in respect to each other and with respect to the earth for giving off relatively low tension electrical current, substantially without chemical action.

13. Electricity producing means constructed and operating substantially as described with reference to the accompanying drawings.

Dated this 13th day of January, 1913.

W. P. THOMPSON & Co.,
6, Lord Street, Liverpool, and at
Bradford & London,
Agents for the Applicant.

Reference has been directed, in pursuance of Section 7, Sub-section 4, of the Patents and Designs Act, 1907, to Specifications No. 16,709 of 1887, No. 14,033 of 1899, No. 15,412 of 1906, and No. 5457 of 1911.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1914.

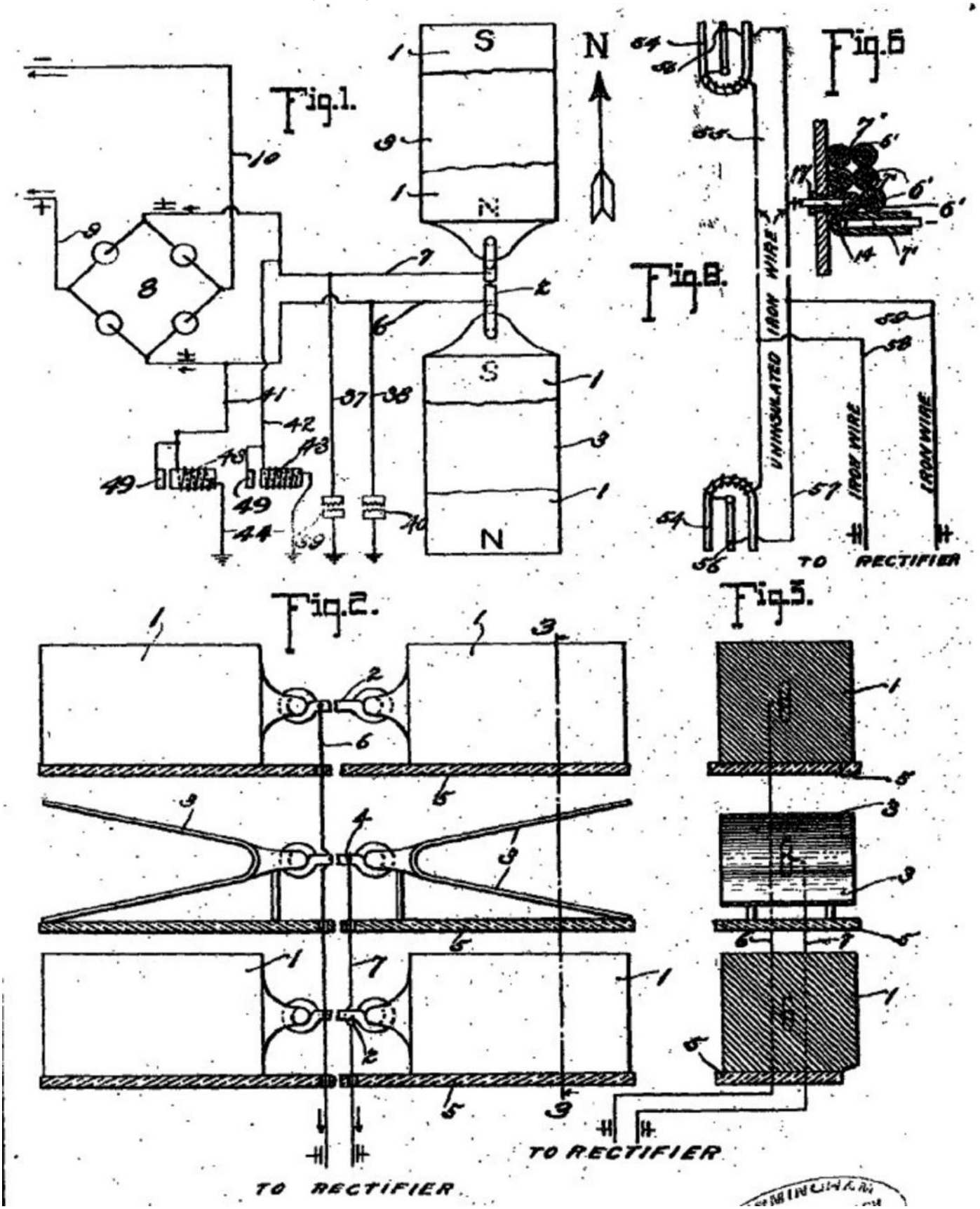
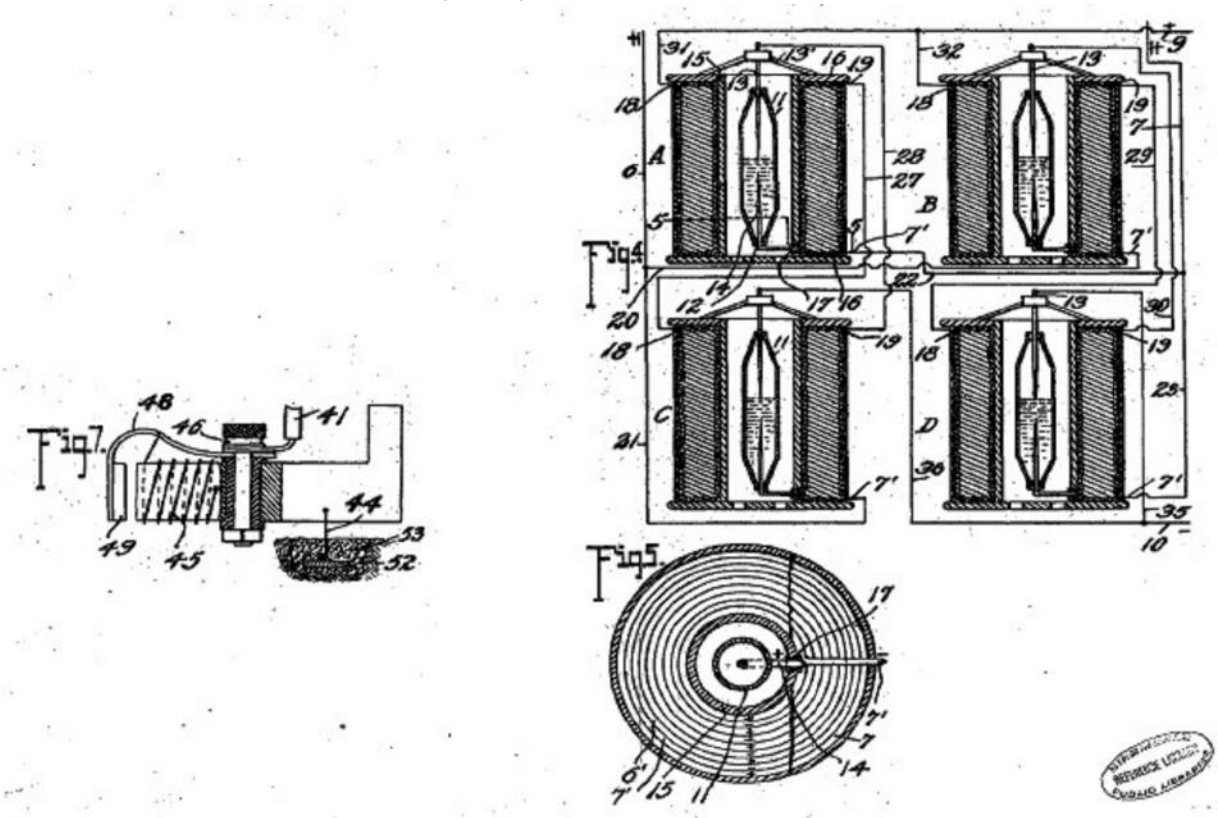


Fig.1.
S
N
8
Fig.6
UNINSULATED IRON WIRE
IRON WIRE
IRON WIRE
TO RECTIFIER
Fig.8.
Fig.2.
TO RECTIFIER
Fig.5.
TO RECTIFIER



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Roy J. Meyers Absorber, GB Patent 191301098.

This device was brought to my attention by Grumage. Here is my take on why it worked.

In its simplest form the device consists of two horseshoe magnets, some zinc plates and some uninsulated iron wire. The iron wire is wound around the curved ends of the horseshoe magnet and connected to the zinc plates as shown in figure 1. The system has to be aligned with the earth's magnetic field.

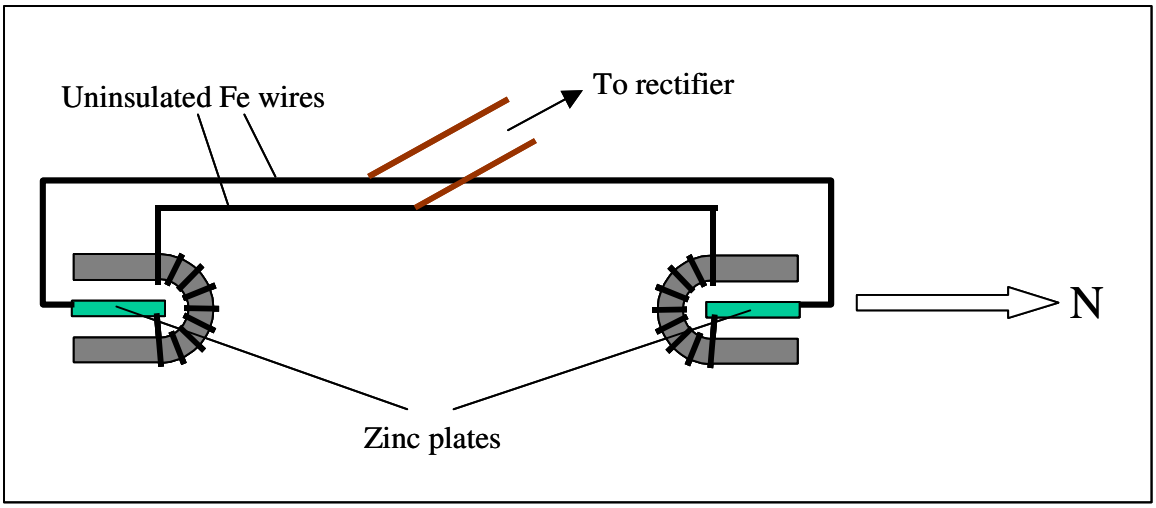

Figure 1. Simple Scheme reported to supply alternating current at low voltage

At first sight this seems incapable of providing alternating voltage but here is a possible explanation. If you follow the magnetization axis of each horseshoe it is seen that the earth's field supplies a magnetic gradient around the curved section, hence spin polarized conduction electrons therein will be dragged along thus creating a tiny potential difference between the two legs of each magnet. The iron wires wound over that curved end do nothing except create contact points at the ends of each curvature. We can discount any galvanic potential between iron wire and magnet since the magnets used were of magnetized steel. However we cannot ignore the galvanic potential between the zinc and the iron connection, or indeed the solder used for the connection. Although the two connections to the zinc would normally result in a zero overall potential, there exists a difference in the magnetic field at each end of the zinc, which could result in a significant (but low) voltage present. This magneto-Seebeck effect is a fairly new phenomenon and would not have been known in 1913 when the patent application was made. Also unknown at that time was the presence of spin-polarized conduction electrons.

This all predicts the presence of DC voltage, so how could this become AC? Well the magneto-Seebeck effect can result in a positive or a negative potential, and it also changes with temperature. In fact there can be a crossover temperature where it changes from positive to negative. Hence the DC current flowing around the closed loop of iron wire could heat the thin zinc plates to take it through that crossover temperature, whereupon the current decreases, the zinc cools down then the whole process repeats itself. This would result in a very low frequency AC voltage being observed.

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JENNINGS

(54) ATMOSPHERIC TRANSDUCTION SYSTEM

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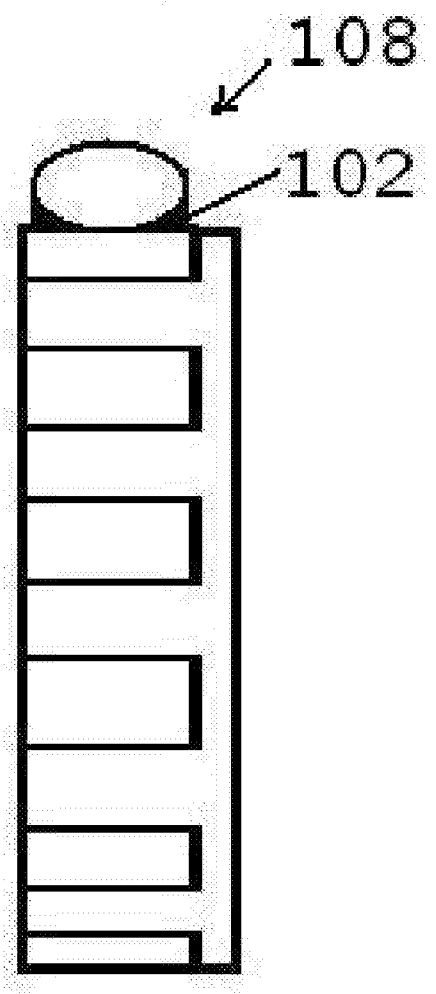
USPC **290/55**; 310/308

(57) **ABSTRACT**

Atmospheric Transduction System including a Power Frequency broadcast station, a receiver, and a network. The Power Frequency broadcast station includes a transmitter and a computer server. The receiver is in communication with the Power Frequency broadcast transmitter and also includes a user interface for receiving user input commands comprising a request for information from the Power Frequency broadcast station. The receiver is configured to establish a two-way communication path between the receiver and the Power Frequency broadcast transmitter. The network is in communication with the transducer, controller and the receiver for exchanging information therebetween. In response to oscillation translation and/or rotation of the electronic transducer, portions of forces induced by the mass are transferred to the piezoelectric elements. Electrical energy output by these piezoelectric elements is received in a power controller and can be applied to the battery as self charging. The piezoelectric transducer includes a conductive rotor and bearings, at least one of them incorporating a vibrator of mechanical oscillation, having a piezoelectric transducer converting mechanical vibrations into electric power.



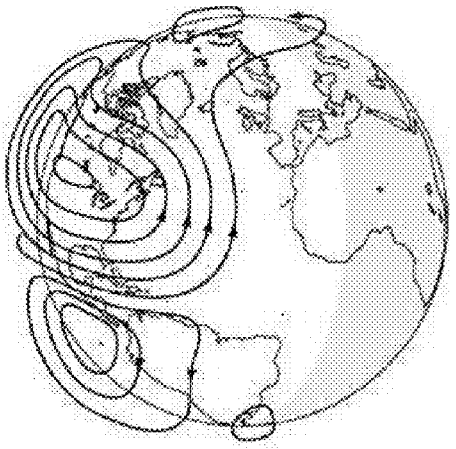


FIG. 1

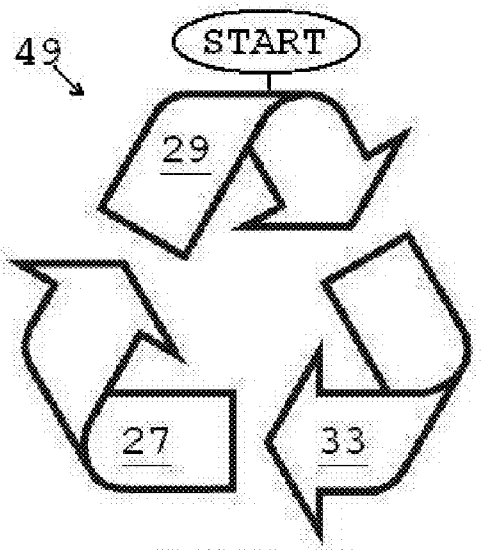


FIG. 2

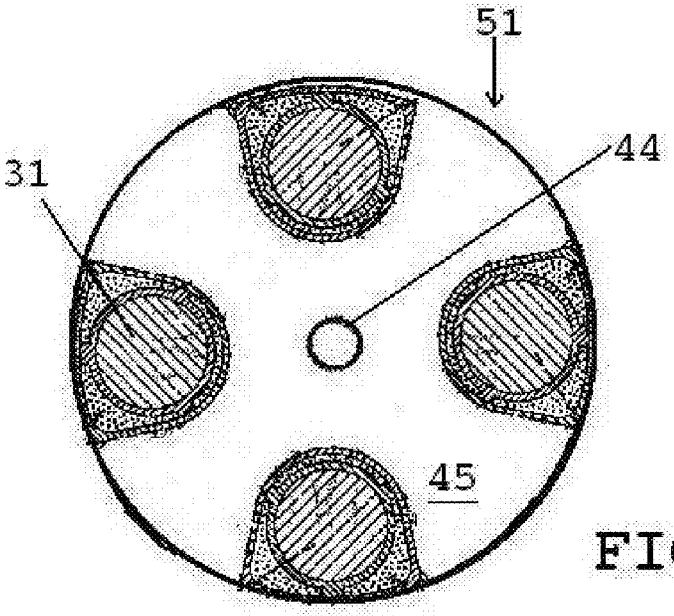


FIG. 3

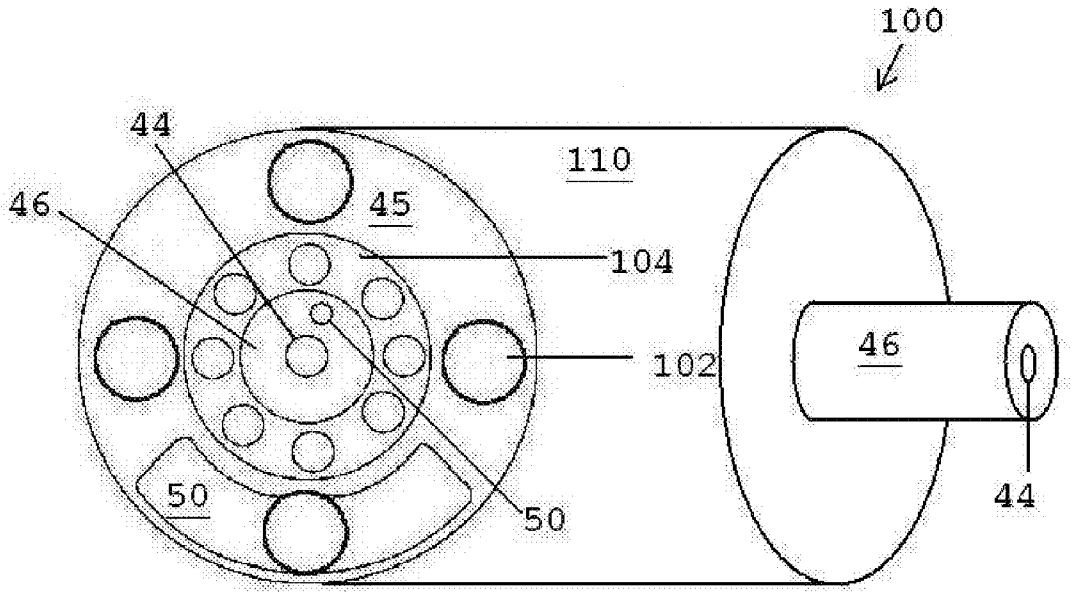


FIG. 4

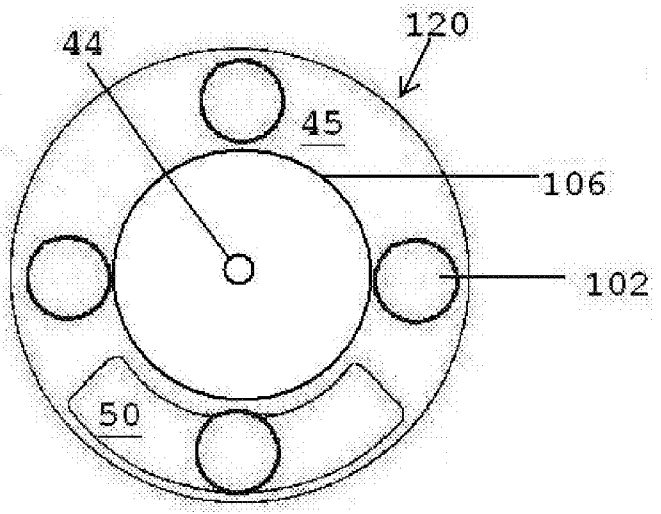


FIG. 5

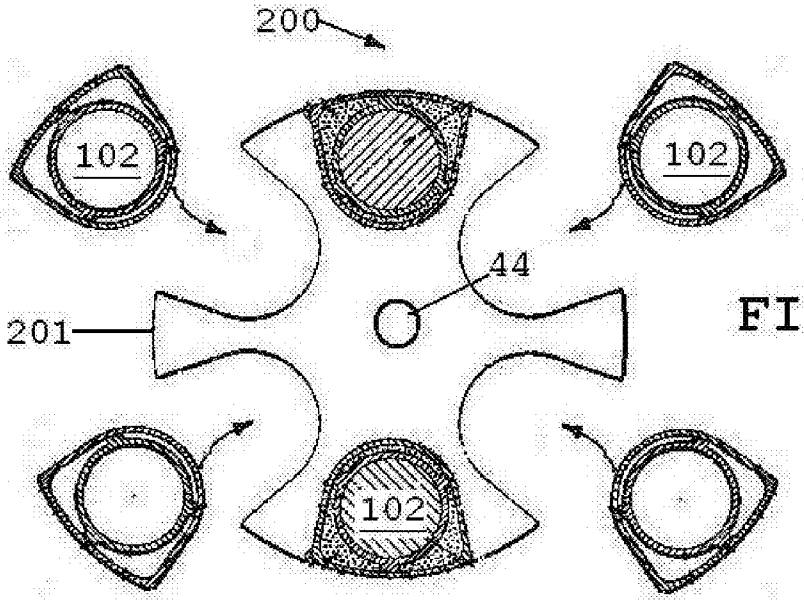


FIG. 6

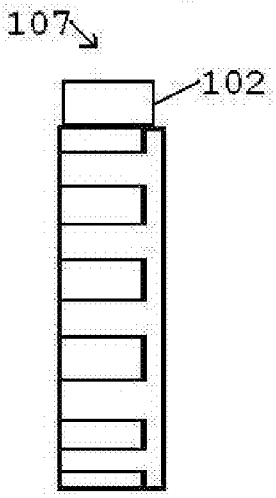


FIG. 7

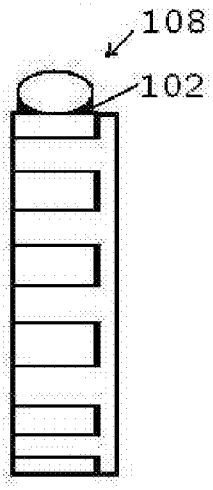


FIG. 8

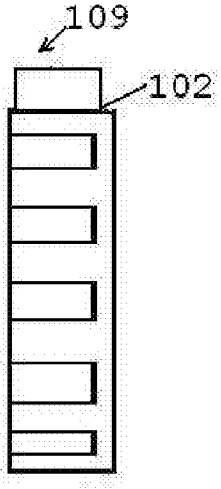


FIG. 9

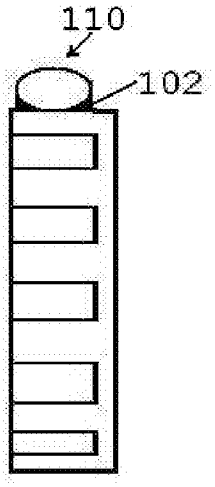
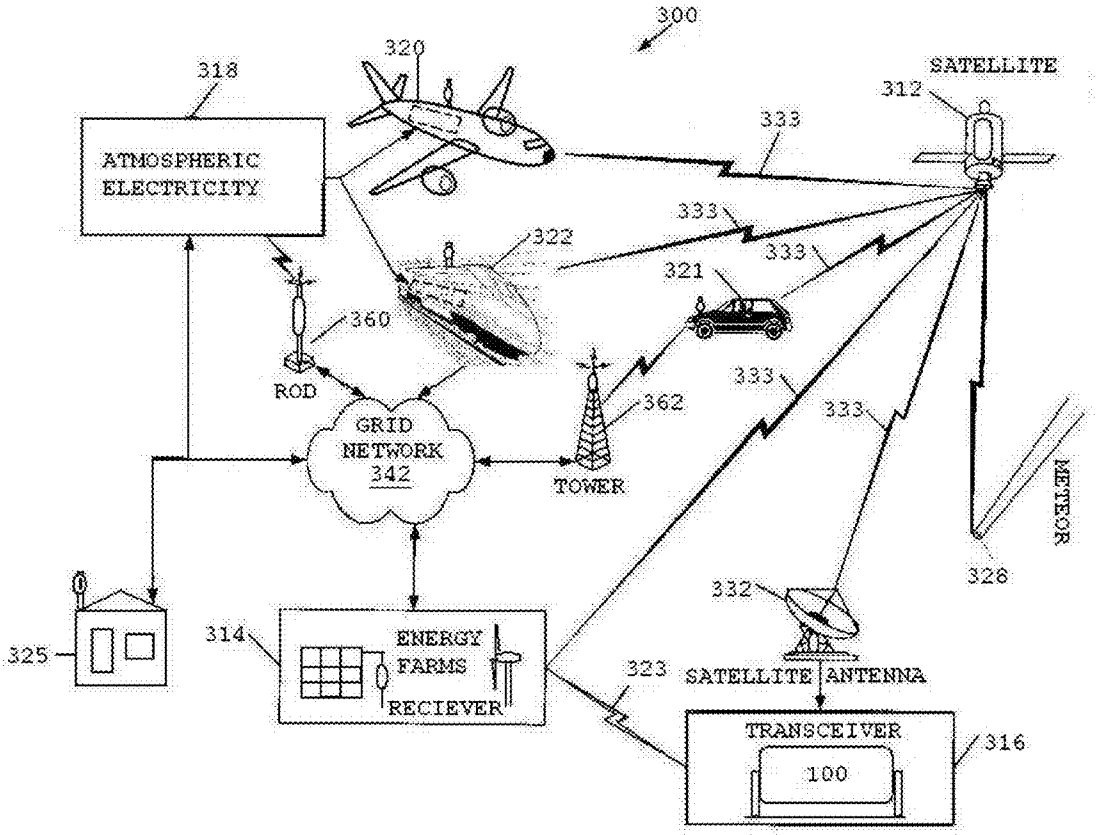


FIG. 10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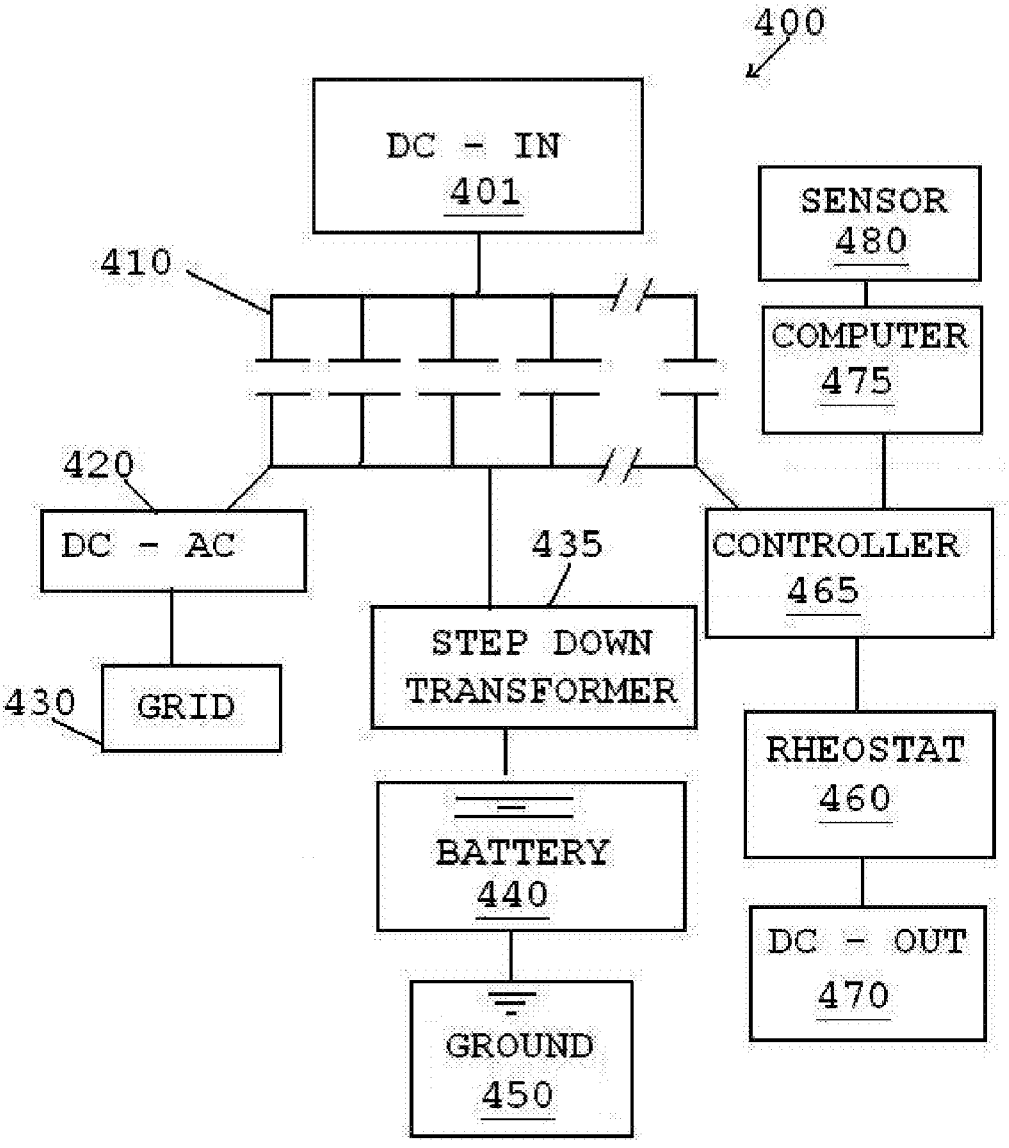
320
318
SATELLITE
312
ATMOSPHERIC ELECTRICITY
333
333
322
321
333
360
ROD
333
362
GRID NETWORK 342
TOWER
333
METEOR
328
332
325
314
ENERGY FARMS
RECIEVER
323
SATELLITE ANTENNA
TRANSCEIVER
100
316

FIG.11

FIG.12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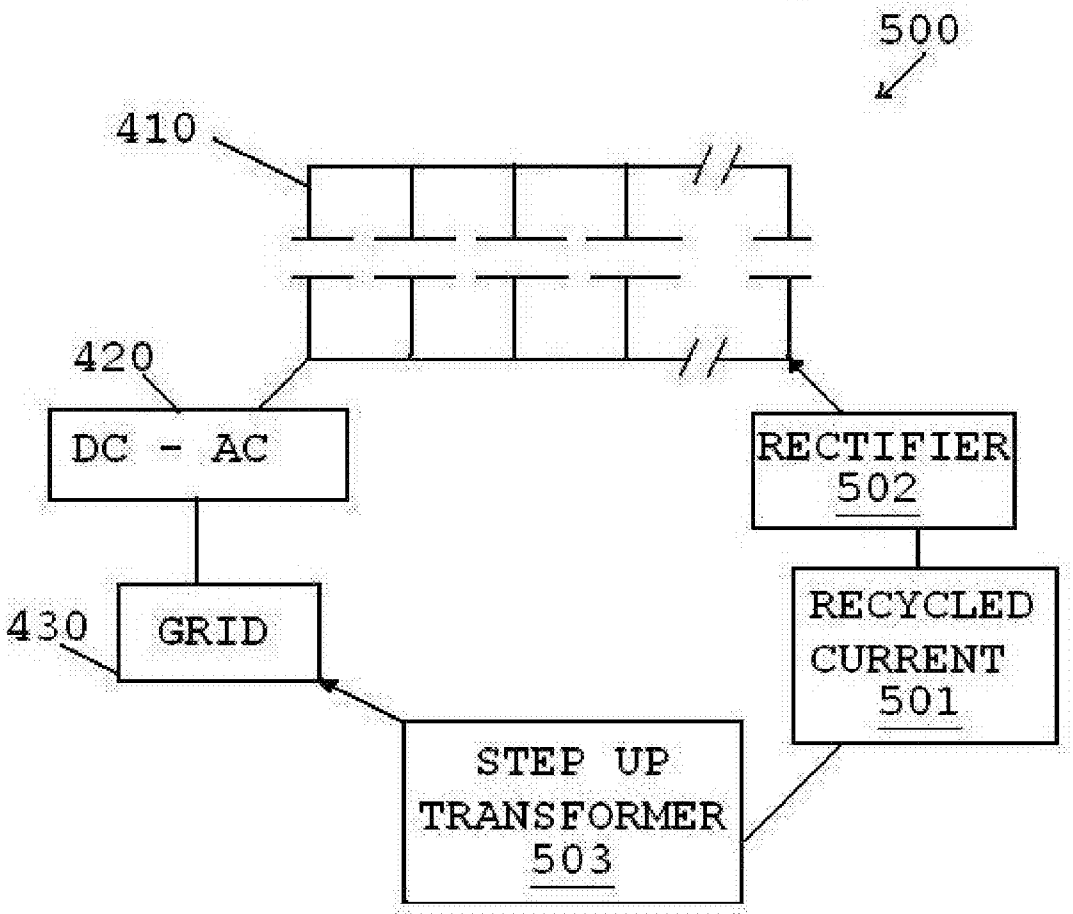
DC - IN
401
SENSOR
480
410
COMPUTER
475
420
DC - AC
435
CONTROLLER
465
STEP DOWN
TRANSFORMER
430
GRID
RHEOSTAT
460
BATTERY
440
DC - OUT
470
GROUND
450

FIG.13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DC - AC
RECTIFIER
502
430
GRID
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CURRENT
501
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TRANSFORMER
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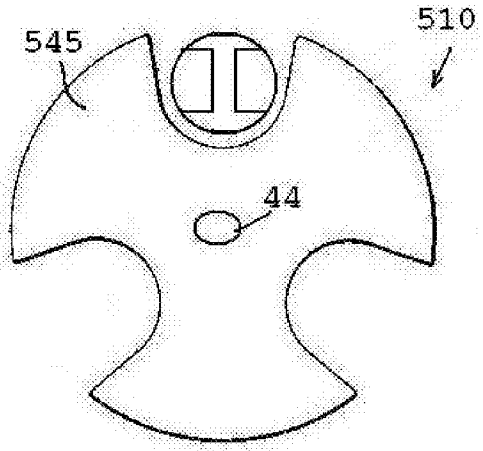


FIG.14

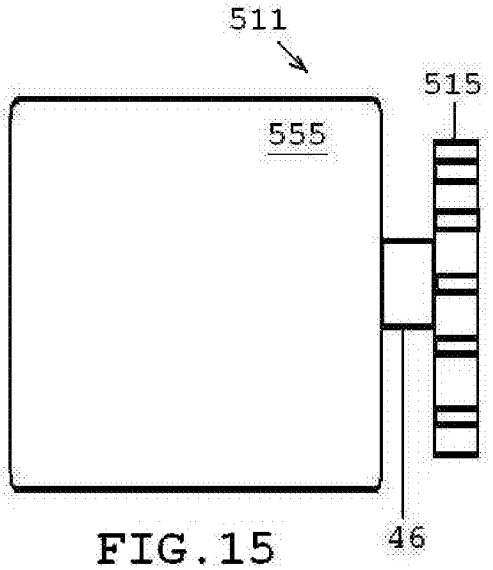
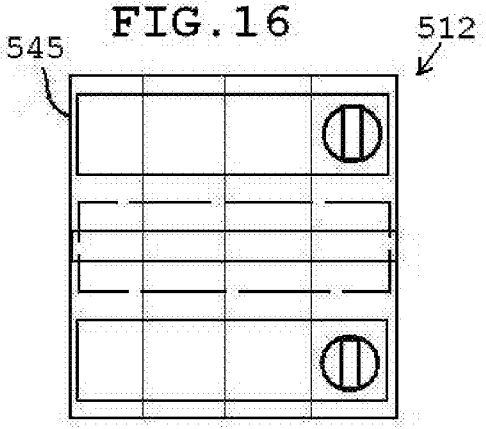


FIG.15

FIG.16



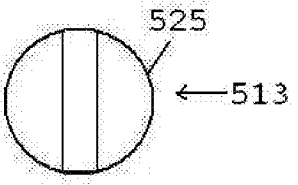


FIG.17

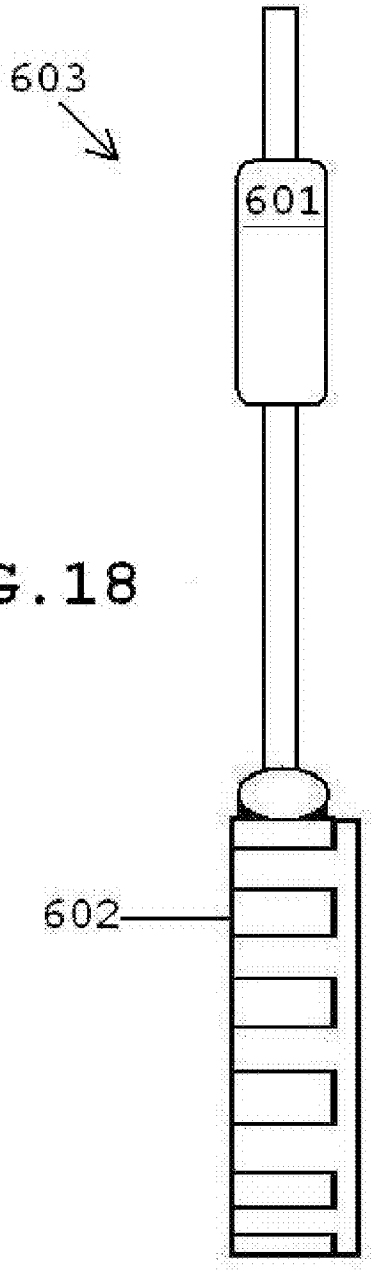


FIG.18

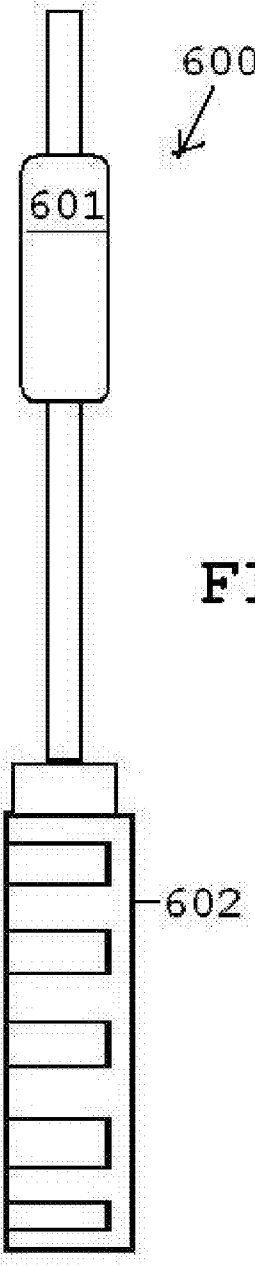
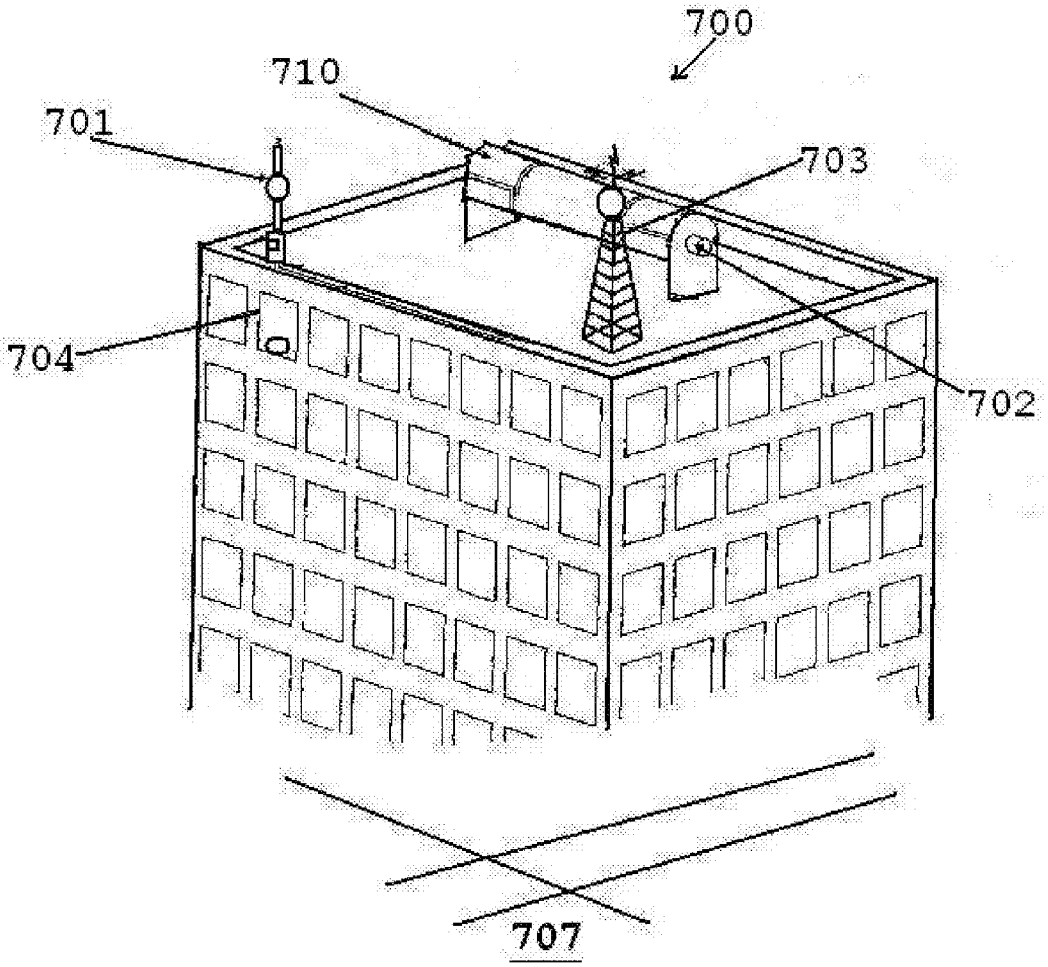


FIG.19

FIG. 20



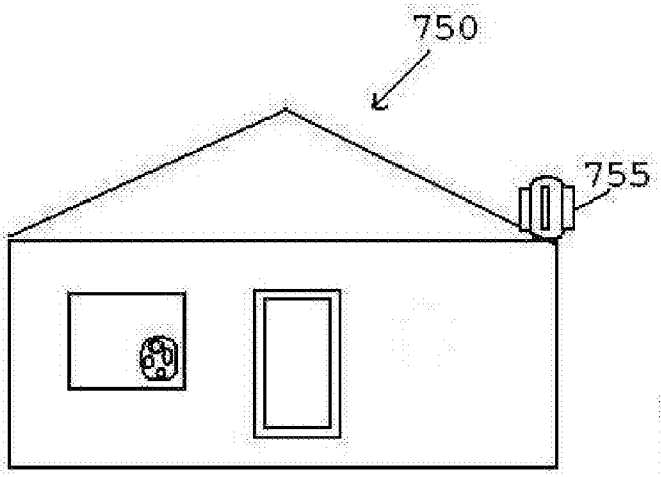


FIG.21

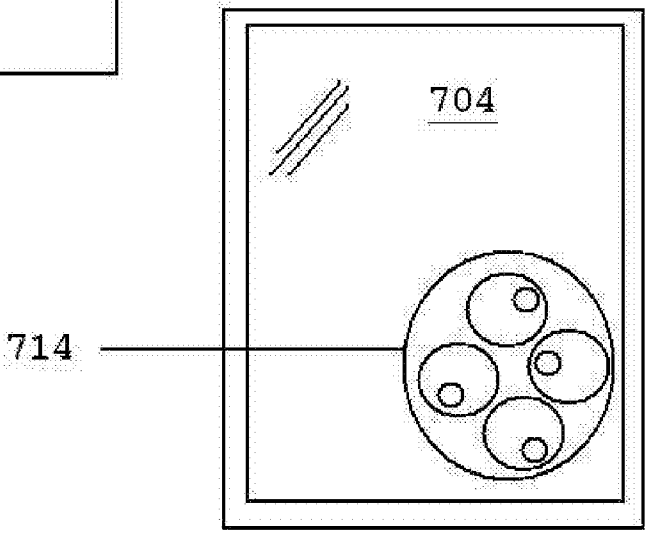


FIG.22

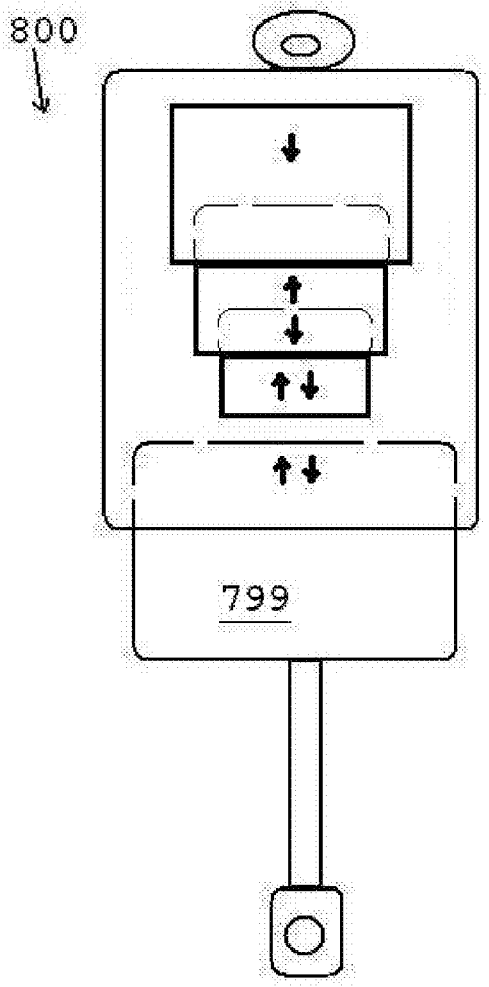


FIG.23

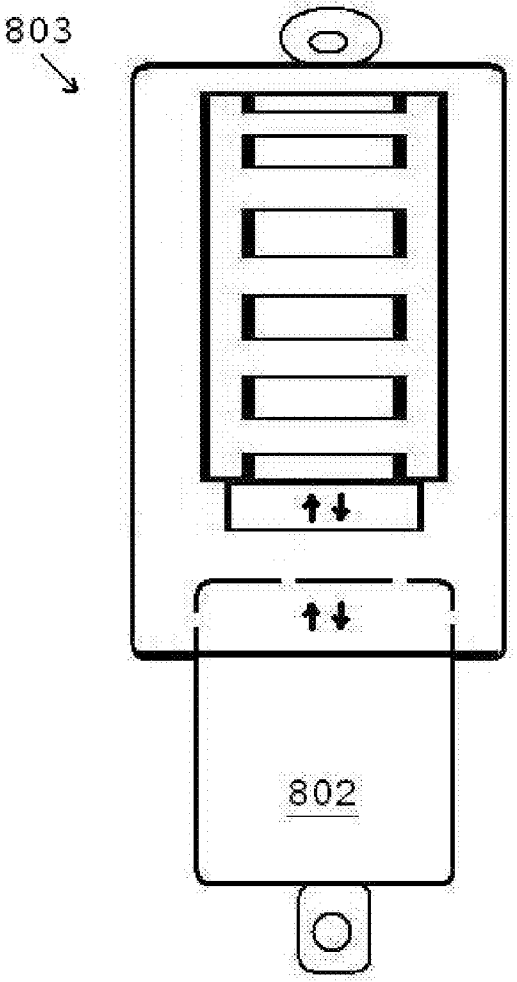


FIG.24

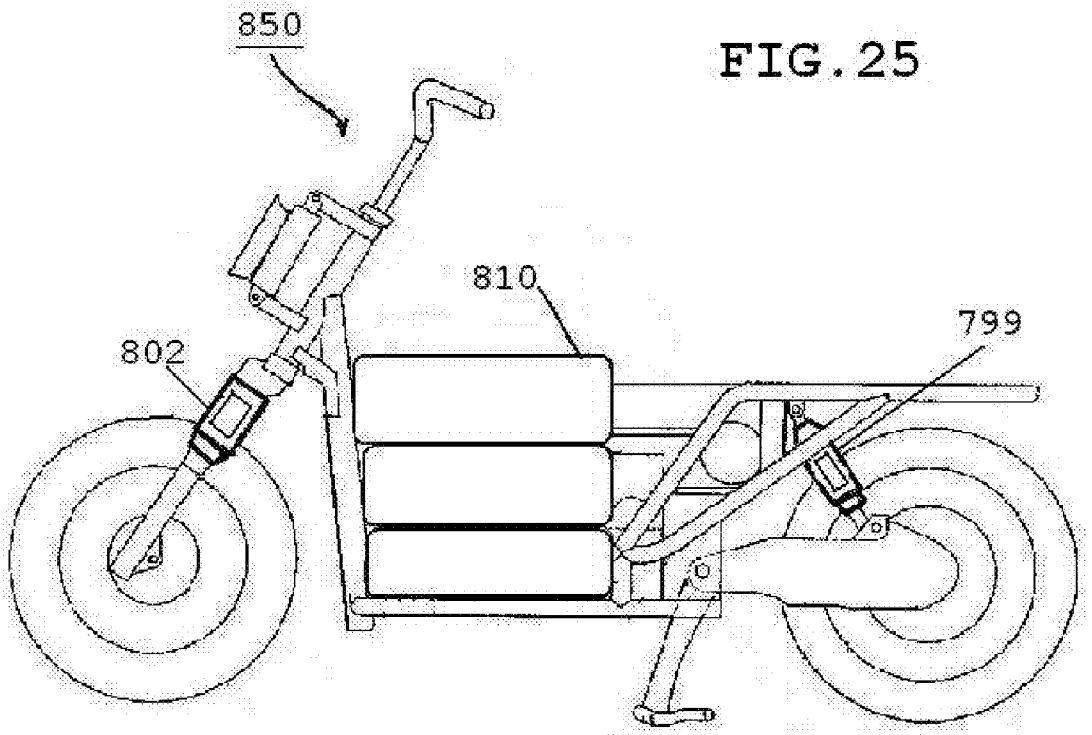


FIG. 25

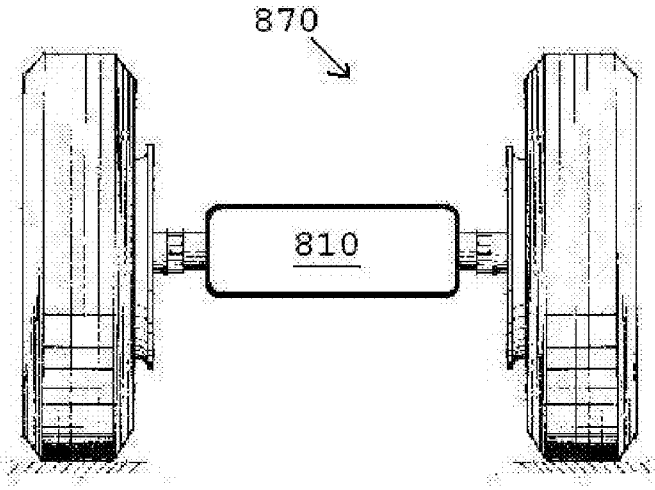


FIG. 26

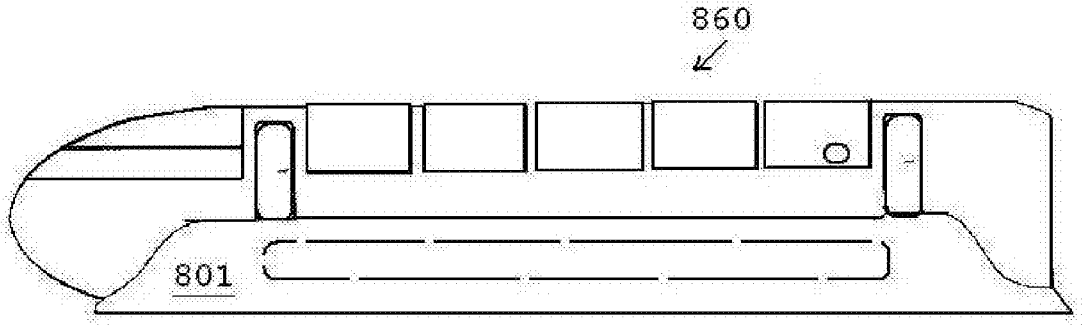


FIG.27

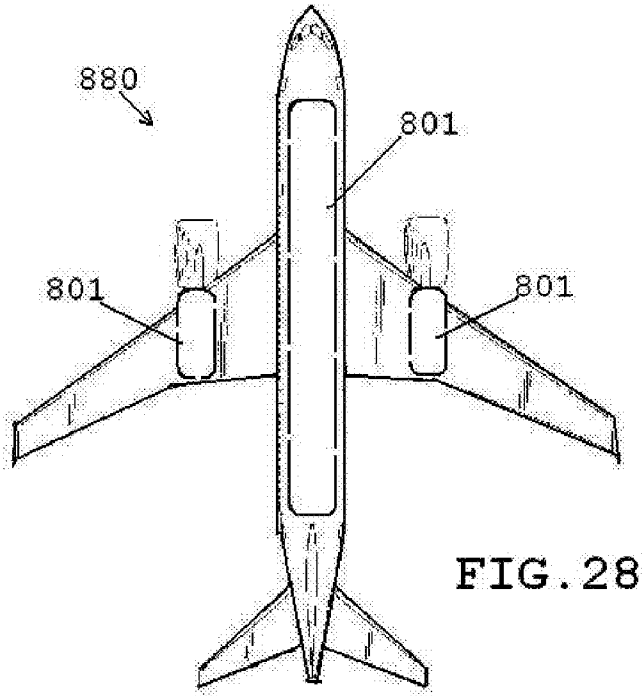


FIG.28

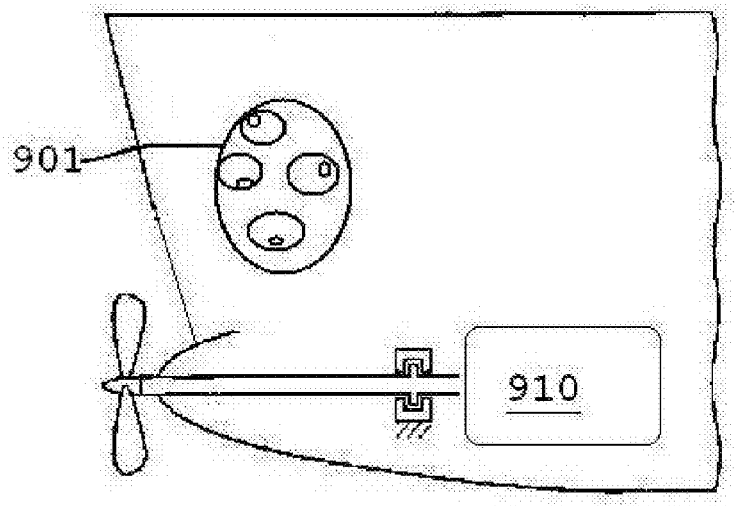


FIG. 29

FIG. 30

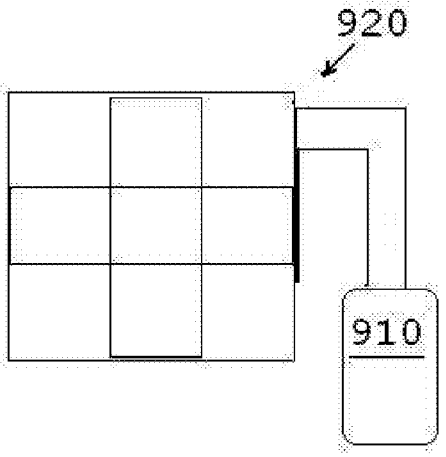
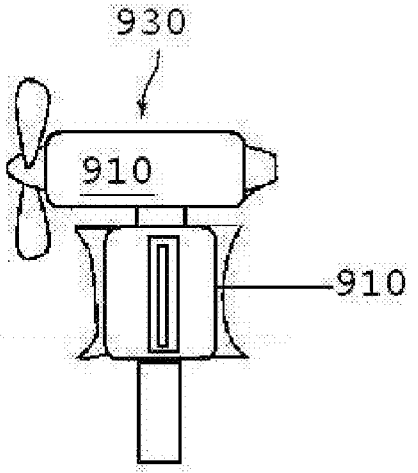


FIG. 31



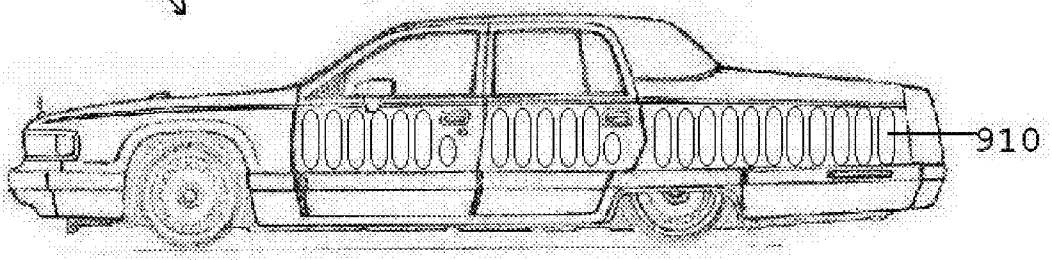


FIG. 32

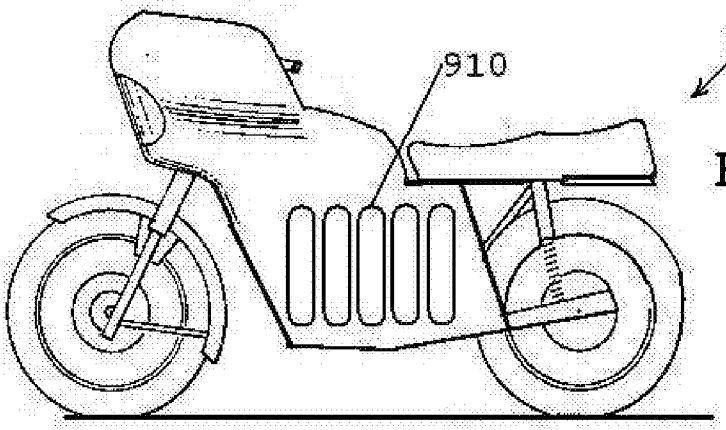


FIG. 33

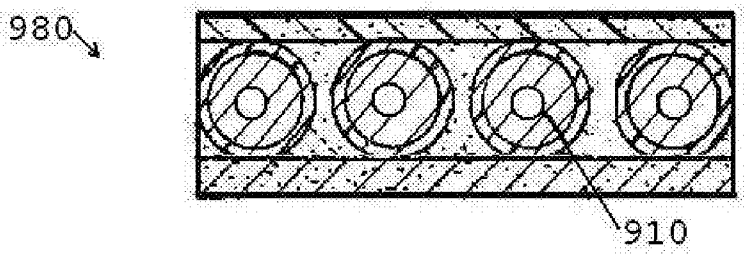


FIG. 34

ATMOSPHERIC TRANSDUCTION SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] NONE

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] Self-propelled travel is a type of recreational adventure travel using human powered transport. This includes non-motorized machines such as a bicycle or skateboard. It is in contrast to traveling in a powered vehicle (such as an automobile) as in that case it is the vehicle which powers itself. Self-propelled travel is used to travel short distances or even for much longer distances such as bicycle touring. Self propelled describes something that moves, progresses or acts on its own power without needing outside help. Leonardo da Vinci's 1478 Self-Propelled Car: It was more than 500 years ago, however—sometime around the year 1478 to be more or less specific—when Leonardo drew out his plans for the world's first self-propelled vehicle. Experts originally believed two leaf springs, the simplest form of the spring typically used for automotive suspensions, somehow powered the vehicle. Closer inspection eventually revealed the power came from bigger, coiled springs located in tambours, cylindrical drum-like casings, inside the car's frame. The machine works like a robot or a wind-up toy simply by rotating the wheels opposite of their intended direction, which winds up the springs inside and gives it power. Self propulsion (of a vehicle) provided with its own source of tractive power rather than requiring an external means of propulsion.

[0003] In the middle of the 18th century, Benjamin Franklin's experiments showed that electrical phenomena of the atmosphere were not fundamentally different from those produced in the laboratory. By 1749, Franklin observed lightning to possess almost all the properties observable in electrical machines.

[0004] In July 1750, Franklin hypothesized that electricity could be taken from clouds via a tall metal aerial with a sharp point. Before Franklin could carry out his experiment, in 1752 Thomas-Francois Dalibard erected a 40-foot (12 m) iron rod at Marly-la-Ville, near Paris, drawing sparks from a passing cloud. With ground-insulated aerials, an experimenter could bring a grounded lead with an insulated wax handle close to the aerial, and observe a spark discharge from the aerial to the grounding wire. In May 1752, Dalibard affirmed that Franklin's theory was correct.

Piezoelectric Motor

[0005] A piezoelectric motor or piezo motor is a type of electric motor based upon the change in shape of a piezoelectric material when an electric field is applied. Piezoelectric motors make use of the converse piezoelectric effect whereby the material produces acoustic or ultrasonic vibrations in order to produce a linear or rotary motion. In one mechanism, the elongation in a single plane is used to make a series stretches and position holds, similar to the way a caterpillar moves. A transducer is a device that converts one form of energy to another. Energy types include (but are not limited to) electrical, mechanical, electromagnetic (including light), chemical, acoustic or thermal energy. While the term transducer commonly implies the use of a sensor/detector, any device which converts energy can be considered a transducer. Transducers are widely used in measuring instruments. Piezoelectric materials can also be used to harvest low levels of mechanical energy into electrical energy suitable for powering wireless sensors, low power microprocessors or charging batteries. Rotary Uses include rotating machines such as fans, turbines, drills, the wheels on electric cars, locomotives and conveyor belts. Also, in many vibrating or oscillating machines, an electric motor spins an unbalanced mass, causing the motor (and its mounting structure) to vibrate.

Atmospheric Electricity

[0006] There is always free electricity in the air and in the clouds, which acts by induction on the earth and electromagnetic devices. Experiments have shown that there is always free electricity in the atmosphere, which is sometimes negative and sometimes positive, but most generally positive, and the intensity of this free electricity is greater in the middle of the day than at morning or night and is greater in winter than in summer. In fine weather, the potential increases with altitude at about 30 volts per foot (100 V/m).

Atmospheric Layers

[0007] The electrical conductivity of the atmosphere increases exponentially with altitude. The amplitudes of the electric and magnetic components depend on season, latitude, and height above the sea level. The greater the altitude the more atmospheric electricity abounds. The exosphere is the uppermost layer of the atmosphere and is estimated to be 500 km to 1000 km above the Earth's surface, and its upper boundary at about 10,000 km. The thermosphere (upper atmosphere) is the layer of the Earth's atmosphere directly above the mesosphere and directly below the exosphere. Within this layer, ultraviolet radiation causes ionization. Theories that have been proposed to explain the phenomenon of the polar aurora, but it has been demonstrated by experiments that it is due to currents of positive electricity passing from the higher regions of the atmosphere to the earth.

[0008] The mesosphere (middle atmosphere) is the layer of the Earth's atmosphere that is directly above the stratosphere and directly below the thermosphere. The mesosphere is located about 50-80/85 km above Earth's surface. The stratosphere (middle atmosphere) is a layer of Earth's atmosphere that is stratified in temperature and is situated between about 10 km and 50 km altitude above the surface at moderate latitudes, while at the poles it starts at about 8 km altitude. The stratosphere sits directly above the troposphere and directly below the mesosphere. The troposphere (lower atmosphere) is the densest layer of the atmosphere.

[0009] The planetary boundary layer (PBL), also known as the atmospheric boundary layer (ABL), is the lowest part of the atmosphere and its behavior is directly influenced by its contact with the planetary surface. It is also known as the "exchange layer". (see also: p-n junction.)

[0010] There is a potential gradient at ground level ("Atmosphere ground layer") and this vertical field corresponds to the negative charge in and near the Earth's surface. The negative potential gradient falls rapidly as altitude increases from the ground. Most of this potential gradient is in the first few kilometers. The positive potential gradient rises rapidly as altitude increases from the ground. Volta, over two centuries before the 21st century, discovered with some degree of exactitude that the proportions of the ordinates of the curve or

gradient of electric potential increased as the distance from the earth increases, and, more recently, Engel has provided data to calculate the increase (Image to the right).

Drum-Type Generator

[0011] A drum-type homopolar generator has a magnetic field (B) that radiates radially from the center of the drum and induces voltage (V) down the length of the drum. A conducting drum spun from above in the field of a "loudspeaker" type of magnet that has one pole in the center of the drum and the other pole surrounding the drum could use conducting ball bearings at the top and bottom of the drum to pick up the generated current.

Astrophysical Unipolar Inductors

[0012] Unipolar inductors occur in astrophysics where a conductor rotates through a magnetic field, for example, the movement of the highly conductive plasma in a cosmic body's ionosphere through its magnetic field. In their book, Cosmical Electrodynamics, Hannes Alfvén and Carl-Gunne Fälthammar write:

[0013] "Since cosmical clouds of ionized gas are generally magnetized, their motion produces induced electric fields [. . .] For example the motion of the magnetized interplanetary plasma produces electric fields that are essential for the production of aurora and magnetic storms" [. . .]

[0014] " . . . the rotation of a conductor in a magnetic field produces an electric field in the system at rest.

[0015] This phenomenon is well known from laboratory experiments and is usually called 'homopolar' or 'unipolar' induction.

The Faraday Disc

[0016] The homopolar generator was developed first by Michael Faraday during his experiments in 1831. It is frequently called the Faraday disc in his honor. It was the beginning of modern dynamos—that is, electrical generators which operate using a magnetic field. It was very inefficient and was not used as a practical power source, but it showed the possibility of generating electric power using magnetism, and led the way for commutated direct current dynamos and then alternating current alternators.

Boeing 737-800

[0017] The Boeing Fuel Cell Demonstrator Airplane has a Proton Exchange Membrane (PEM) fuel cell/lithium-ion battery hybrid system to power an electric motor, which is coupled to a conventional propeller. The fuel cell provides all power for the cruise phase of flight. During takeoff and climb, the flight segment that requires the most power, the system draws on lightweight lithium-ion batteries.

[0018] The demonstrator aircraft is a Dimona motor glider, built by Diamond Aircraft Industries of Austria, which also carried out structural modifications to the aircraft. With a wing span of 16.3 meters (53.5 feet), the airplane will be able to cruise at approximately 100 kilometers per hour (62 miles per hour) on power from the fuel cell.

[0019] Nikola Tesla explored the wireless transmission of energy through his work with radio and microwaves and his creation of the Tesla coil and the magnifying transmitter. In 1898, Tesla demonstrated his radio-controlled boat, which he was able to control remotely. In the 1930s, Tesla claimed to have invented a particle beam weapon, or, as some called it, a "peace ray." The device was, in theory, capable of generating an intense, targeted beam of energy and sending it across great distances to demolish warplanes, foreign armies, or anything else you'd rather didn't exist.

[0020] "Roy J. Meyers, British Patent Number 1098"

[0021] This invention relates to improvements in apparatus for the production of electrical currents, and the primary object in view is the production of a commercially serviceable electrical current without the employment of mechanical or chemical action. To this end the invention comprises means for producing what I believe to be dynamic electricity from the earth and its ambient elements.

[0022] Edward Leedskalnin: Magnetic Current—

[0023] The Perpetual Motion Holder is primarily a teaching device but it has many functions including an electromagnet, this is easy enough to see; it is a generator—spin a magnet between the coils it will generate electricity; it functions as a transformer; it demonstrates how permanent magnets are made, and is a holder of perpetual motion.

Strategic Defense Initiative

[0024] The Strategic Defense Initiative (SDI) was proposed to use ground and space-based systems to protect the United States from attack by strategic nuclear ballistic missiles.

Description of the Related Art

[0025] The present invention relates to a ball bearing assembly structure, an electromagnetic clutch having the ball bearing assembly structure, and a gas compressor equipped with the electromagnetic clutch.

[0026] When operating the gas compressor, the electromagnet of the electromagnetic clutch is energized to attract or adsorb the follower armature plate to an end surface of the prime-mover pulley and join the prime-mover pulley and the rotor shaft, thereby rotating the rotor shaft.

[0027] The ball bearing of the electromagnetic clutch conventionally has used one having an even number of balls per row. Generally, the ball bearing causes vibration and noise due to rotation. In the case of the ball bearing rotating while undergoing a radial load due to a tension of the belt, vibration and noise considerably occur. Particularly when other vibration and noise levels are lowered during engine idling, the vibration and noise of the ball bearing transmitted to the vehicular compartment is not negligible.

[0028] The inventor has conducted various experiments and discovered that the one factor of high vibration and noise level is an even number of balls of the ball bearing. In the ball bearing having an even number of balls per one row, the balls are in a facing relation to have linear-symmetry arrangement between the inner race and the outer race. The deformation and vibration at a regular particular frequency is caused in the inner and outer races. It is to be considered that the vibration as a source also increases noise.

[0029] The present invention relates generally and in various embodiments to piezoelectric mechanical systems. More specifically, the present invention relates generally and in various embodiments to atmospheric oscillation transducer apparatuses, systems, and methods.

[0030] Although various implementations of the present invention, among many, may be described herein with reference to the specific illustrative embodiments related to particular applications, those skilled in the art will understand that the invention is not in any way intended to be limited to

such embodiments and/or applications. Those having ordinary skill in the art and reference to the description of the embodiments herein will recognize additional modifications, applications, and other embodiments falling within the scope of the claimed invention and additional fields in which the present invention may be practiced.

[0031] Digital Radio (also known as Satellite Radio or Satellite Digital Audio Radio Service (SDARS)) is a subscriber-based digital radio service that is broadcast via satellites. Digital radio service provides compact-disc (CD) quality programming that may be digitally transmitted via one or more satellites and/or space stations to one or more Earth-based (terrestrial) digital radio stations, receivers, and/or repeaters. In satellite-based direct-broadcast radio services, digitally-encoded audio program material may be broadcast to terrestrial fixed or mobile digital radio receivers. Fixed receivers may include, for example, stand alone digital radio receivers or digital radio receivers connected via computer networks, including for example, the Internet. Mobile receivers may include, for example, digital radio receivers located in automobiles, aircrafts, watercrafts, and the like.

[0032] Satellite-based digital audio radio services such as SDARS, for example, may be broadcast to one or more digital radio receivers either directly from an orbiting satellite, or indirectly from one or more repeater stations. Such repeater stations may be useful where the digital radio receiver is located in a shielded location or where there is no direct line of sight between the radio and the satellite. In other digital audio radio services systems, the audio programs also may be transmitted in digital form by one or more space stations directly to fixed, mobile, and/or portable radio stations. Such systems may comprise, for example, orbiting satellites, complementary repeating terrestrial transmitters, telemetry, tracking, and control facilities.

[0033] Combinations of mechanical devices U.S. Pat. Nos. 4,019,073, 6,615,968 and atmospheric system interaction are disclosed in U.S. Pat. Nos. 1,119,732, 787,412, 6,902,513 to Nikola Tesla; 28,793 to Charles Vion; and U.S. Pat. No. 1,540,998 to Herman Plauson. Lastly, U.S. Pat. No. 8,102,078 and US2008/0009240. Agnoff discloses an Oscillating watch winder in U.S. Pat. No. 6,543,929, Jennings further discloses an oscillating smart device in application No. 13,572,679.

[0034] As illustrated by a large body of prior art, including the above-noted patents, and a large number of commercial devices, efforts are continuously being made in an attempt to improve helmets, headsets and their methods of fabrication. Nothing in the prior art, however, suggests the present inventive combination of materials and method steps as herein described and claimed. The present invention achieves its purposes, objects and advantages over the prior art through a new, useful and unobvious combination of components and method steps which improve safety, comfort and noise abatement performance.

[0035] Therefore, it is an object of this invention to provide Effectively, the provision of energy such that it meets the needs of the present without compromising the ability of future generations to meet their own needs . . . . Sustainable Energy has two key components: renewable energy and energy efficiency.

[0036] It is still a further objection of this invention to promote Dynamic harmony between equitable availability of energy-intensive goods and services to all people and the preservation of the earth for future generations." And, "the solution will lie in finding sustainable energy sources and more efficient means of converting and utilizing energy.

[0037] It is a further object of the present invention to produce Green Power Energy: is energy that can be extracted, generated, and/or consumed without any significant negative impact to the environment, green power; as electricity produced from solar, wind, geothermal, biogas, biomass, and low-impact small hydroelectric sources.

[0038] Thus, there is a need for a clean energy system that uses atmospheric electricity.

Prior Art

[0039] Quartz crystals have been in regular use for many years to give an accurate frequency for all radio transmitters, radio receivers and computers. Their accuracy comes from an amazing set of coincidences: Quartz—which is silicon dioxide like most sand—is unaffected by most solvents and remains crystalline to hundreds of degrees Fahrenheit. The property that makes it an electronic miracle is the fact that, when compressed or bent, it generates a charge or voltage on its surface. This is a fairly common phenomenon called the Piezoelectric effect. In the same way, if a voltage is applied, quartz will bend or change its shape very slightly.

[0040] If a bell were shaped by grinding a single crystal of quartz, it would ring for minutes after being tapped. Almost no energy is lost in the material. A quartz bell—if shaped in the right direction to the crystalline axis—will have an oscillating voltage on its surface, and the rate of oscillation is unaffected by temperature. If the surface voltage on the crystal is picked off with plated electrodes and amplified by a transistor or integrated circuit, it can be re-applied to the bell to keep it ringing.

[0041] The electronics of the watch initially amplifies noise at the crystal frequency. This builds or regenerates into oscillation—it starts the crystal ringing. The output of the watch crystal oscillator is then converted to pulses suitable for the digital circuits.

Polymers

[0042] Polyvinylidene fluoride (PVDF): PVDF exhibits piezoelectricity several times greater than quartz. Unlike ceramics, where the crystal structure of the material creates the piezoelectric effect, in polymers the intertwined long-chain molecules attract and repel each other when an electric field is applied.

Near Space

[0043] Solar particles become trapped within the Earth's magnetic field and form radiation belts. The Van Allen radiation belt is a torus of energetic charged particles (i.e. a plasma) around Earth, trapped by Earth's magnetic field.

[0044] At elevations above the clouds, atmospheric electricity forms a continuous and distinct element (called the electrosphere) in which the Earth is surrounded. The electrosphere layer (from tens of kilometers above the surface of the earth to the ionosphere) has a high electrical conductivity and is essentially at a constant electric potential. The ionosphere is the inner edge of the magnetosphere and is the part of the atmosphere that is ionized by solar radiation. (Photoionisation is a physical process in which a photon is incident on an atom, ion or molecule, resulting in the ejection of one or more electrons.)

Advantages/Disadvantages

[0045] Energy in electronic elements: Electric potential energy, or electrostatic potential energy, is a potential energy (measured in joules) that results from conservative Coulomb forces and is associated with the configuration of a particular set of point charges within a defined system. The term "electric potential energy" is used to describe the potential energy in systems with time-variant electric fields, while the term "electrostatic potential energy" is used to describe the potential energy in systems with time-invariant electric fields.

[0046] Capacitance is the ability of a body to store an electrical charge. Any body or structure that is capable of being charged, either with static electricity or by an electric current, exhibits capacitance. A common form of energy storage device is a parallel-plate capacitor. In a parallel plate capacitor, capacitance is directly proportional to the surface area of the conductor plates and inversely proportional to the separation distance between the plates. If the charges on the plates are +q and −q, and V gives the voltage between the plates, then the capacitance C is given by

$$C=q/V.$$

[0047] The capacitance is a function only of the physical dimensions (geometry) of the conductors and the permittivity of the dielectric. It is independent of the potential difference between the conductors and the total charge on them.

[0048] Piezoelectricity is the combined effect of the electrical behavior of the material:

$$D=\in E$$

where D is the electric charge density displacement (electric displacement), $\in$ is permittivity and E is electric field strength, and

Hooke's Law: $S=sT$

where S is strain, s is compliance and T is stress.

[0049] Polyvinylidene fluoride, or polyvinylidene difluoride (PVDF) is a highly non-reactive and pure thermoplastic fluoropolymer produced by the polymerization of vinylidene difluoride. PVDF is a specialty plastic material in the fluoropolymer family; it is used generally in applications requiring the highest purity, strength, and resistance to solvents, acids, bases and heat and low smoke generation during a fire event. Compared to other fluoropolymers, it has an easier melt process because of its relatively low melting point of around 177° C.

[0050] It has a low density (1.78) and low cost compared to the other fluoropolymers. It is available as piping products, sheet, tubing, films, plate and an insulator for premium wire. It can be injected, molded or welded and is commonly used in the chemical, semiconductor, medical and defense industries, as well as in lithium ion batteries. It is also available as a crosslinked closed cell foam, used increasingly in aviation and aerospace. PVDF has a glass transition temperature (Tg) of about −35° C. and is typically 50-60% crystalline. To give the material its piezoelectric properties, it is mechanically stretched to orient the molecular chains and then poled under tension. PVDF exists in several forms: alpha (TGTG'), beta (TTTT), and gamma (TTTGTTTG') phases, depending on the chain conformations as trans (T) or gauche (G) linkages. When poled, PVDF is a ferroelectric polymer, exhibiting efficient piezoelectric and pyroelectric properties. These characteristics make it useful in sensor and battery applications. Thin films of PVDF are used in some newer thermal camera sensors.

[0051] Copolymers: Copolymers of PVDF are also used in piezoelectric and electrostrictive applications. One of the most commonly-used copolymers is P(VDF-trifluoroethylene), usually available in ratios of about 50:50 wt % and 65:35 wt % (equivalent to about 56:44 mol % and 70:30 mol %). Another one is P(VDF-tetrafluoroethylene). They improve the piezoelectric response by improving the crystallinity of the material.

[0052] While the copolymers' unit structures are less polar than that of pure PVDF, the copolymers typically have a much higher crystallinity. This results in a larger piezoelectric response: d33 values for P(VDF-TrFE) have been recorded to be as high as −38 pC/N versus −33 pC/N in pure PVDF.

[0053] Applications:

[0054] The piezoelectric properties of PVDF are used to advantage to manufacture tactile sensor arrays, inexpensive strain gauges and lightweight audio transducers. Piezoelectric panels made of PVDF are used on the Venetia Burney Student Dust Counter, a scientific instrument of the New Horizons space probe that measures dust density in the outer solar system. PVDF is the standard binder material used in the production of composite electrodes for lithium ion batteries. 1-2% weight solution of PVDF dissolved in N-Methyl-2-pyrrolidone (NMP) is mixed with an active lithium storage material such as graphite, silicon, tin, LiCoO2, LiMn2O4, or LiFePO4 and a conductive additive such as carbon black or carbon nanofibers. This slurry is cast onto a metallic current collector and the NMP is evaporated to form a composite or paste electrode. PVDF is used because it is chemically inert over the potential range used and does not react with the electrolyte or lithium. Piezoelectric elements can be used in laser mirror alignment, where their ability to move a large mass (the mirror mount) over microscopic distances is exploited to electronically align some laser mirrors. By precisely controlling the distance between mirrors, the laser electronics can accurately maintain optical conditions inside the laser cavity to optimize the beam output. Piezoelectric sensors especially are used with high frequency sound in ultrasonic transducers for medical imaging and also industrial nondestructive testing (NDT).

[0055] For many sensing techniques, the sensor can act as both a sensor and an actuator—often the term transducer is preferred when the device acts in this dual capacity, but most piezo devices have this property of reversibility whether it is used or not. Ultrasonic transducers, for example, can inject ultrasound waves into the body, receive the returned wave, and convert it to an electrical signal (a voltage). Most medical ultrasound transducers are piezoelectric.

[0056] Advantageously,

[0057] Sustainable energy is the sustainable provision of energy that meets the needs of the present without compromising the ability of future generations to meet their needs. Technologies that promote sustainable energy include renewable energy sources, such as hydroelectricity, solar energy, wind energy, wave power, geothermal energy, and tidal power, and also technologies designed to improve energy efficiency.

[0058] This sequence of oscillations causes the rotor within the watch to spin rapidly thereby winding the watch in a manner closely simulating the spinning of the rotor that occurs during normal winding of the watch when the watch is

worn by a user. Due to the forces that are exerted, the rotor spins around the watch shaft during the oscillations, as opposed to the partial rotation observed in prior art mechanisms. Therefore, the time required to wind the watch, and the energy required, is substantially reduced. Moreover, since the rotor is spinning about the shaft, as opposed to merely being held in a downward position while the watch is rotated, winding more closely approximating the design mechanism is achieved, thereby putting less wear on the watch.

[0059] This invention relates to satellite communications systems using multiple spot beams from a geosynchronous earth orbit satellite to provide selective coverage of the continental United States and, more particularly, relates to a system having a satellite receiving hub in every spot beam that allows for asynchronous communications between each hub and the satellite for maximizing frequency re-use.

[0060] These purposes, objects and advantages should be construed as merely illustrative of some of the more prominent features and applications of the present invention. Many other beneficial results can be obtained by applying the disclosed invention in a different manner or by modifying the invention within the scope of the disclosure. Accordingly, other purposes, objects and advantages as well as a fuller understanding of the invention may be had by referring to the summary herein mentioned and detailed description describing the preferred embodiments of the invention, in addition to the scope of the invention, as defined by the claims, taken in conjunction with the accompanying drawings.

SUMMARY OF THE INVENTION

[0061] In one general respect, an embodiment of the present invention is directed to a system. The system includes a Power Frequency broadcast station, a receiver, and a network. The Power Frequency broadcast station includes a transmitter and a server. The receiver is in communication with the Power Frequency broadcast transmitter and also includes a user interface for receiving user input commands comprising a request for information from the Power Frequency broadcast station.

[0062] The receiver is configured to establish a two-way communication path between the receiver and the Power Frequency broadcast transmitter. The network is in communication with the server and the receiver for exchanging information therebetween. The request for information is provided to the server via the network and the server is configured to receive the request and transmit a response message to the receiver in accordance with the request.

Continuously Outboard Recharged Electric Vehicle (COREY)

[0063] Given suitable infrastructure, permissions and vehicles, BEVs (battery electric vehicles) can be recharged while the user drives. The BEV establishes contact with an electrified rail, plate or overhead wires on the highway via an attached conducting wheel or other similar mechanism (see Conduit current collection). The BEV's batteries are recharged by this process—on the highway—and can then be used normally on other roads until the battery is discharged. Some of battery-electric locomotives used for maintenance trains on the London Underground are capable of this mode of operation. Power is picked up from the electrified rails where possible, switching to battery power where the electricity supply is disconnected.

[0064] The present invention is directed to overcome the disadvantages of the prior art. The invention is a mechanism which taps into the naturally occurring static electricity in the atmosphere. Whereas heretofore, the attempt to garner electricity from the atmosphere has focused exclusively on capturing lightning, the present invention syphons off the static electricity which is generated from any agitated air and voids lightning.

[0065] Lightning is only the final discharge of the static electricity, whether that lightning is intra-cloud lightning, cloud-to-ground lightning, or inter-cloud lightning. Other types of final discharges are known as heat lightning, summer lightning, sheet lightning, ribbon lightning, silent lightning, ball lightning, bead lightning, elves, jets, and sprites. Well before these discharges are observed, as the atmosphere becomes agitated by wind or thermal, static electricity is being generated. The present invention recognizes that this static electricity is being formed and creates a mechanism to capture it.

[0066] In the preferred embodiment, a sensor array is used to monitor the activities both at the base unit (such as electrical flow within the conductor) and in the surrounding locale. A sensor monitoring the electrical flow (i.e. voltage and/or current) within the conductor is used to monitor the electrical activity within the conductor.

[0067] In the preferred embodiment, a lightning sensor monitors for lightning activity within the locale. As noted earlier, the electrical characteristic of lightning is so extreme that ideally this discharge is avoided as it might damage the mechanism of this invention. The sensor array is utilized by a controller, such as microprocessor, programmed to operate the mechanism as outlined herein.

[0068] The controller operates the winch motor to extend or withdraw the conductive line and by extension the altitude of the balloon. The controller is programmed to operate the winch by monitoring the electrical characteristics of the conductor and adjusting the balloon's altitude to maintain these characteristics within the conductor within a preset range.

[0069] This preset range is established either in the base programming of the controller or is established by an operator of the system. As example, by controlling the amount of current being withdrawn from the atmosphere, the mechanism operates within a safe range and also provides a relatively stable current flow from which a variety of activities can take place (such as DC-AC conversion).

[0070] The controller also utilizes the lightning sensor to protect the mechanism from a lightning strike. Should lightning be detected within a pre-determined range (as established by the software or defined by an operator), then the balloon is pulled down to minimize the risk of damage from a lightning strike.

[0071] Another aspect of the invention relates to the electrical system which accepts the fluctuating atmospheric charge and changes it into an acceptable configuration for either the desired load or for the existing power grid.

[0072] Power grids in the United States operate with a frequency of 60 hertz in an alternating current arrangement. While this basic configuration seems to be universally accepted, the voltage within the grid varies dramatically, such as 15 kv, 34 kv, 69 kv, and even 112 kv.

[0073] Each atmospheric generator is placed proximate to or within easy access to a specific grid; this establishes the required electrical output configuration (i.e. that which is accepted by the power grid). As example, one of the atmo-

spheric electrical collector units as described above collects the atmospheric electrical power as direct current and then supplies the appropriate power grid a specific flow (as example, AC, 60 hertz, at 69 kv).

[0074] The difficulty lies the fact that the DC current being garnered from the atmosphere varies depending on the actual agitation being generated in the atmosphere. This means that the source of DC current is fluctuating.

[0075] The present invention uses a monitoring system which checks the input DC voltage. Depending on the actual voltage being received, the appropriate converter is connected to the input DC voltage so that the desired output is obtained.

[0076] As example, suppose the DC input voltage is 1500 volts, the monitoring system, sensing this input, closes the switch connecting the DC voltage to a converter which accepts DC voltage in the range of 1000-2000 volts which then delivers an AC, 60 hertz 69 kv signal to the power grid. If the DC input voltage increases to 2100 volts, then the monitoring system opens the switch to the first converter (1000-2000 volts) and closes the switch to a second converter (such as 2000-4000 volts) to deliver the desired output of AC (60 hertz, 69 kv) for the power grid.

[0077] In this manner, regardless of the fluctuating input DC voltage, the electrical grid is supplied with a fully configured electrical input conforming to the needs of that specific electrical grid.

[0078] Another aspect of the present invention is the use of a tower or permanent structure instead of an aircraft. In this embodiment, the building or tower is electrically isolated from the ground and a rod (similar to a lightning rod) is extended into the atmosphere. The rod collects the atmospheric charge which is conveyed via an electrical conduit (ideally insulated) where the collected DC charge is reconfigured to meets the need of the locale.

[0079] In this context, for one embodiment of the invention, a tower is placed onto the top of a building. The tower is electrically isolated from the building using such mechanisms well known to those of ordinary skill in the art such as rubber mats. A rod ideally extends from the top of the tower to facilitate the collection of the DC electrical energy.

[0080] Piezoelectricity is a material property that is manifested when voltage is produced by applying mechanical forces, and vice versa, the effect has been described as direct and converse. Piezoelectricity has been described as coupling between a quasi-static electric field and dynamic mechanical motion.

[0081] A piezoelectricity converter mechanism such as described above, is connected to the tower to flow the DC electricity to a converter which modifies the DC current for the specific application. In one application, the DC current is converted to the electrical needs of the building, thereby providing at least some of the electrical requirements of the building itself.

[0082] As noted earlier, the dynamic converter system of the present invention allows a power generator to address a variable voltage in an efficient manner. This makes the dynamic converter system ideal for a variety of alternative energy sources such as the above described atmospheric electrical generator and other alternative energy sources such as wind and wave powered systems. In these systems, the energy being generated must be converted to a proper electrical configuration for a identified load. This may be a particular motor or connection to the power grid which act as a load to the power generating mechanism.

[0083] For these energy generating systems, the converter assembly of this invention utilizes multiple converters. Each converter is configured to accept a unique range of voltages and from these voltages, create the desired electrical configuration. By using multiple converters, a full range is available, from a minimum voltage input to a maximum voltage input.

[0084] The present invention can include systems and methods for integrating sensors for tracking atmospheric transducer system performance metrics into media devices and accessories therefor, thereby reducing or eliminating the need for additional independent monitoring devices. In one embodiment of the present invention.

[0085] It also is known to provide such transducers with connectors to allow their rechargeable batteries to be charged. In some cases, the connector is a Universal Serial Bus (USB) connector, allowing the transducer to be charged by plugging it into the USB port of a computer, grid circuit or other device.

[0086] These and other objects and advantages of the invention will appear more clearly from the following description in which the preferred embodiment of the invention has been set forth in conjunction with the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0087] FIG. **1** Prior Art depicts perspective view of Electric currents created in sunward ionosphere;

[0088] FIG. **2** is a box flow chart of the propulsion cycle systems present invention;

[0089] FIG. **3** is an top view of the piezoelectric disk cylinder orb of the present invention;

[0090] FIG. **4** is a longitudinal sectional view showing an embodiment of this invention;

[0091] FIG. **5** is a top view of the (ATS) slip rotor piezoelectric chamber of the present invention;

[0092] FIG. **6** is an alternate top view of the piezoelectric cylinder orb of the present invention;

[0093] FIG. **7-10** elevation views of spine piezo stacks embodiments of the present invention;

[0094] FIG. **11** illustrates one embodiment of a power service (ATS) system architecture;

[0095] FIG. **12** is a block diagram of the ATS charge schematics systems of the present invention;

[0096] FIG. **13** is a block diagram of an ATS charge and recycle schematics of the present invention;

[0097] FIG. **14** is a view of the piezoelectric ball race cylinder of the present invention;

[0098] FIG. **15** is a view of the piezoelectric housing and gear of the present invention;

[0099] FIG. **16** is a view of a multiple piezoelectric ball race cylinder of the present invention;

[0100] FIG. **17** is another embodiment of the piezoelectric stack ball of the present invention;

[0101] FIGS. **18** & **19** are antenna rod transmit device embodiments of the (ATS) present invention;

[0102] FIG. **20** illustrates substation embodiment of the power service (ATS) system architecture;

[0103] FIG. **21** illustrates a home embodiment of the power service (ATS) system architecture;

[0104] FIG. **22** illustrates a window embodiment of the power service (ATS) system architecture;

[0105] FIG. **23** is (ATS) shock device in accordance with an embodiment of the present invention;

[0106] FIG. **24** is (ATS) shock device in accordance with an embodiment of the present invention;

[0107] FIG. **25** is (ATS) motorcycle device embodiment of the present invention;

[0108] FIG. **26** is (ATS) axle device in accordance with an embodiment of the present invention;

[0109] FIG. **27** is (ATS) train device in accordance with an embodiment of the present invention;

[0110] FIG. **28** is (ATS) plane device in accordance with an embodiment of the present invention;

[0111] FIG. **29** is (ATS) boat device in accordance with an embodiment of the present invention;

[0112] FIG. **30** is (ATS) solar device in accordance with an embodiment of the present invention;

[0113] FIG. **31** a (ATS) turbine device in accordance with an embodiment of the present invention;

[0114] FIG. **32** is (ATS) auto body panel device embodiment of the present invention;

[0115] FIG. **33** is (ATS) motorcycle body fairing panel device in of the present invention; and

[0116] FIG. **34** is (ATS) cross section view of body embed panel device of the present invention.

DETAILED DESCRIPTION

[0117] This sequence of oscillations causes the conductive rotor within piezoelectric molded housing device to spin rapidly thereby winding the mechanism in a manner closely simulating the spinning of the conductive rotor that occurs during normal electric activity when the device is activated. Due to the forces that are exerted, the conductive rotor spins around the piezoelectric cylinder device shaft during the oscillations, as opposed to the partial rotation observed in prior art mechanisms. Therefore, the time required to charge the Atmospheric Transduction System (ATS) device, and the energy required, is substantially reduced. Moreover, since the rotor is spinning about the shaft, as opposed to merely being held in a downward position while the ATS device is rotated, recharging more closely approximating the design mechanism is achieved, thereby putting less wear on the ATS chamber device Innovative Piezoelectric housing and ball bearing, coupler and book spine stacks. There relies the notion of negative ground electricity and positive aerial electricity which is in abundance. This invention substantiates land vehicles recycle recharge by reverse oscillation. Aerial vehicles recycle recharge by forward oscillation in accumulation of environmental positive and negative electricity. These aforementioned activities are integral or synchronous with frequency.

[0118] Prior Art FIG. **1**

[0119] Electric currents created in sunward ionosphere. FIG. **2** is a recycle box flow chart **49** of a self propulsion unit consisting of a battery **27**, engine **29** and piezoelectric transducer **33** unit. FIG. **3** is a multiple disk **31** load part **51** about a 360 degree cylinder **45** and shaft **44**. FIG. **4** is a piezoelectric molded device **100** housing **110** containing a ball bearing race **104**, disk stacks capacitor **102** and conductive rotor **46**. FIG. **5** is a piezoelectric chamber **120** configuration including a counterweights **50**, shaft **44**, conductive slip rotor **106**. FIG. **6** is an alternate part **200** chamber cylinder **201** embodiment containing piezoelectric spine disk stack capacitors **102**. FIG. **7-10** are variations of spine **107**,**108**,**109**,**110** case piezoelectric stack capacitor **102** with plate and ball heads. FIG. **11** Various embodiments of the present invention, among others, will now be described with reference to the accompanying drawings. Accordingly, FIG. **11** illustrates an embodiment of a Atmospheric Transduction (ATS) System **300** architecture. The system **300** may include, for example, a satellite broadcast station **318** that transmits signals **333** containing frequency content from a geostationary satellite **312** by way of airplane antenna **326**. In turn, the satellite **312** transmits line-of-sight (LOS) signals **333** to one or more ATS terrestrial frequency power receiver farms **314**. The system **300** also may include one or more terrestrial repeaters **316** which receive and retransmit the satellite signals **333** as repeater signals **323** to facilitate reliable reception in geographic areas where LOS reception from the satellite **312** is obstructed by tall buildings, hills, tunnels, and other similar impediments to the signals **333**. The ATS receivers **314** maybe designed to receive one or more signals **333** from the satellite **312** and/or from the terrestrial repeater transceiver **316**. In operation, such ATS receivers **314** may receive both the satellite signals **333** and the repeater signals **323**. The receivers **314** also may be located in mobile environments **320**, **321**, **322** which include, but are not limited to, land vehicles **321**, **322**, aircraft **320**, watercraft **900**, and handheld devices, among others. The receivers **314** also may be fixed in stationary units for residential use (e.g., home **325**,**750** entertainment, etc.) or commercial **314**, **328**,**360** use (e.g., business **314**, office **700**, security **328**, etc.). The power frequency broadcast station **318** also may be in communication with a grid network **342**. Two-way communication between the ATS receivers **314** and the power frequency broadcast station **318** may occur via the network **342**. Furthermore, information feedback from the power frequency broadcast station **318** may be transmitted to the ATS receiver **314** both by way of the network **342** as well as via the satellite **312**. Information also may be transmitted to the power broadcast station **318** wirelessly via a wireless network **342**,**707** by way of transducer tower **360**.

[0120] Further disclosed in FIG. **12** and FIG. **13** (in block diagrams **400**, **500**) are electrical schematics for handling the static charge from the atmosphere. By maintaining the voltage being collected in a prescribed range, an electrical conversion system is easily designed. While FIGS. **12**, and **13** illustrate some electrical configurations, those of ordinary skill in the art readily recognize a variety of other configurations which will serve the same function.

[0121] Referencing FIG. **12**, Direct Current In (DC IN) **401** is buffered by a gang of capacitors **410** before being communicated to a DC/AC converter **420**. The DC/AC converter **420** converts the direct current into a an alternating current suitable for placement over an existing electrical grid **430** such as normally found from a power-plant. FIG. **12** Also illustrates an electrical arrangement suitable for use in charging a battery **440**. DC IN **401** is buffered by capacitor **410** bank before entering into a step down transformer **435**. Step down transformer **435** reduces the voltage so that the voltage can safely be introduced into battery **440** which is connected to ground **450** at the battery's other pole. In FIG. **12**, DC IN **401** is fed into an adjustable rheostat **460** which is controlled by the controller **465** so that the DC OUT **470** falls within a computer **475** monitored and sensor **480** specified range. FIG. **13** Hypothetically, unused energy may be recycled current **501** and/or recaptured by reversing the oscillated spin rotation of devices **51**, **100**, **120** with the use of a rectifier **502** and Step up transformer **503**, returned to grid **430** capacitor **410**. This theory lends itself to the concept of positive and negative frequency. FIG. **14-17** Self charging propulsion embodiment of the invention where Da Vinci's ball race **510**,**512** is com-

bined with a disk cylinder **45** and **513** stack balls **525**, conductive rotor **46**, **511** tooth gear **515** and piezoelectric molded housing **555**. FIGS. **18** & **19** Improvement structures Franklin's lightening rod **600**,**603** and a molded vibration transducer **601** quasi replicating Vion's tubes and piezoelectric spine stacks capacitor **602** improving Tesla's Atmospheric transmit device. FIG. **20** is an atmospheric receiving building sub station **700** where energy is consumed and excess rendered to the grid **707** by conductive rotor **702** transducer **710**, tower transducer **703**, antenna rod **701** and transducer windows **704**.

[0122] FIG. **12** and FIG. **2** flowchart illustration also includes battery **440**. Battery **440** may provide electrical power to components of ATS devices within FIG. **11**. Charging circuitry may also be provided to charge battery **440** when an external power supply is connected to an ATS device **100**. FIG. **14-17** eliminates one or more steps by presenting a self charge retaining transducer **510-513** may be configured with an accelerator sensor **480** controller **465** and gears **515**, provide reciprocal power incorporated within piezoelectric molded and ceramic housing **555** along with stack balls **525** and cylinder **545**. This assembly more resembles a motor by characteristics given power with application.

[0123] In operation, as illustrated in FIGS. **2-20** and FIGS. **21-34**, is periodically energized by movement to rotate Orb in either a clockwise or counterclockwise direction. The length of time or activity is energized, and the length of time between the period when the capacitor **31**, **102** battery is energized, will depend on the particular ATS device design. As the Orb rotates, the outer end of the disk moves along a 360° circular pathway to push against with forward and rearwardly spinning. Upon engagement of the Orb, ATS device disk is rotated until carried to the apex or top of the circular pathway. Upon reaching the apex, the gravitational and vibrational force or counterweight **50** promotes additional oscillation. ATS device movement rapidly rotate on Orb at a rotational speed greater than the speed of rotation of Orb. Counterweight **50** is then carried beyond the bottom or lowest point of the pathway by its momentum to a point near the apex on the opposite side of the pathway. The cycle is repeated through multiple increasing oscillations of the ATS device until counterweight **50** stops at the bottom position, or until once again engages to again move counterweight to the top of its circular pathway.

[0124] FIG. **2** is a flow chart showing generation of energy using a rotor according to one or more of the above-described embodiments. First, battery **27** starts the engine **29** and/or mobile transducer **33** is oscillated. In response to this acceleration, forces are imposed on one or more rotation piezoelectric devices. In response to those forces, the piezoelectric devices output electrical energy, which energy is extracted at a power controller **465**. The power controller **465** sensor **480** then makes this energy available to recharge a capacitor **410** battery **440** and/or to electronic components of the mobile terminal. Although FIG. **2** shows a serial flow of events, it is to be appreciated that the events of blocks **33**, **27** and **29** occur substantially instantaneously upon acceleration of the mobile terminal.

Preferred Alternate Embodiments

[0125] The present invention (ATS) device in accordance with an embodiment of the present invention overcomes the foregoing problem in the conventional art and provides an electro energy vibration and alternative to gas, oil or fossil fuel consumption in FIG. **21** homes **750** transducer **755**, FIG. **28** airplane **880** transducer **801**, FIG. **27** train **860** transducer **801**, FIG. **32** auto **950** transducer **910**, FIG. **25** and FIG. **33** motorcycles **960**,**850** transducers **799**, **802**, **810**, **910** and FIG. **29** boat **900** transducers **901**,**910**.

[0126] In order to solve the foregoing problems in the conventional art, the present invention provides an electro transducer having a ball bearing assembly which is compatible with FIG. **26** axle shaft **44** transducer **810** wheel **870** assembly. In order to solve the foregoing problems in the conventional art, the present invention provides an electro transducer having an FIG. **34** housing panel **980** transducer **910** assembly which is compatible with an exterior body assembly. Thereby, an Atmospheric transducer device may be shock **800** integrated as within the FIG. **23** coupler **802**, and FIG. **24** ladder **799**, (vertical friction) piezoelectric absorbers assemblies. In order to solve the foregoing problems in the conventional art, the present invention provides an electro transducer having a capable flat assembly which is compatible with FIG. **22** window **704** disk **31** plate transducer **714**, FIG. **30** solar panel **920** transducer **910**, FIG. **31** wind turbine **930** transducer **910** assembly. This invention provided FIG. **3** piezoelectric plate disks **31**, FIG. **7-10** spine piezoelectric disks stacks **107-110** capacitor **102**, FIG. **17** piezoelectric stack balls **525** capacitor, the arrangement of balls **525** will not be in a facing relation. The deformation in the inner and outer races during rotation of the ball bearing while undergoing a radial load is made irregular and complicated. The spine eliminates the deformation and vibration level increased by a combination of ceramic and molded piezoelectric materials at a regular predetermined frequency thereby multiplying the level of vibration and noise reduction.

[0127] Certain modifications and improvements will occur to those skilled in the art upon a reading of the foregoing description. It should be understood that all such modifications and improvements have been deleted herein for the sake of conciseness and readability but are properly within the scope of the following claims.

[0128] Thus it is seen that an atmospheric transducer device may be integrated and/or provided. It will be understood that the foregoing is only illustrative of the principles of the invention, and that various modifications can be made by those skilled in the art without departing from the scope and spirit of the invention, and the present invention is limited only by the claims that follow.

1-3. (canceled)

4. An atmospheric transduction system comprising:

means for recycle recharge by oscillation and frequency in accumulation of environmental positive and negative electricity, maintaining the voltage being collected in a prescribed range, providing an electrical conversion broadcast network; and

means for collecting the atmospheric electrical power as direct current and then supplies the appropriate power grid, transceiver and capacitates a charge; and

means for self charging propulsion provides motor characteristics, and frequency engine.

5. The atmospheric transduction system in accordance with claim **1**, wherein said means for recycle recharge by oscillation and frequency in accumulation of environmental positive and negative electricity, maintaining the voltage being collected in a prescribed range, an electrical conversion broadcast network comprises piezoelectric transducer molded device(s), rotor, stack ball bearing, coupler, book spine stacks and antenna rod stacks;

wherein said means for collecting the atmospheric electrical power as direct current and then supplies the appropriate power grid and capacitates a charge comprises a piezoelectric network, piezoelectric grid, piezoelectric spine stack antenna, piezoelectric transmitters, piezoelectric receivers, piezoelectric devices, piezoelectric cylinders and orbs, power frequency broadcast;

wherein said means for charging providing motor characteristics, said power frequency engine comprises a sensor accelerator, rotor/gear, battery/capacitor, antenna, controller, for propulsion.

6. An atmospheric transduction system comprising:

a piezoelectric transducer molded device(s), rotor, spine ball bearing, coupler and book spine stack transducers, for recycle recharge by oscillation and frequency in accumulation of environmental positive and negative electricity, maintaining the voltage being collected in a prescribed range, providing an electrical conversion broadcast server network; and

a piezoelectric network, piezoelectric grid, piezoelectric spine stack antenna, piezoelectric transmitters, piezoelectric receivers, piezoelectric devices, piezoelectric cylinders and disc orbs, stack rods, power frequency broadcast, for collecting the atmospheric electrical power as direct current and then supplies the appropriate power grid, transceiver and capacitates a charge; and

a sensor accelerator, rotor/gear, battery/capacitor, controller, antenna, means for self charge propulsion providing motor characteristics, thereby an engine of power frequency.

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